

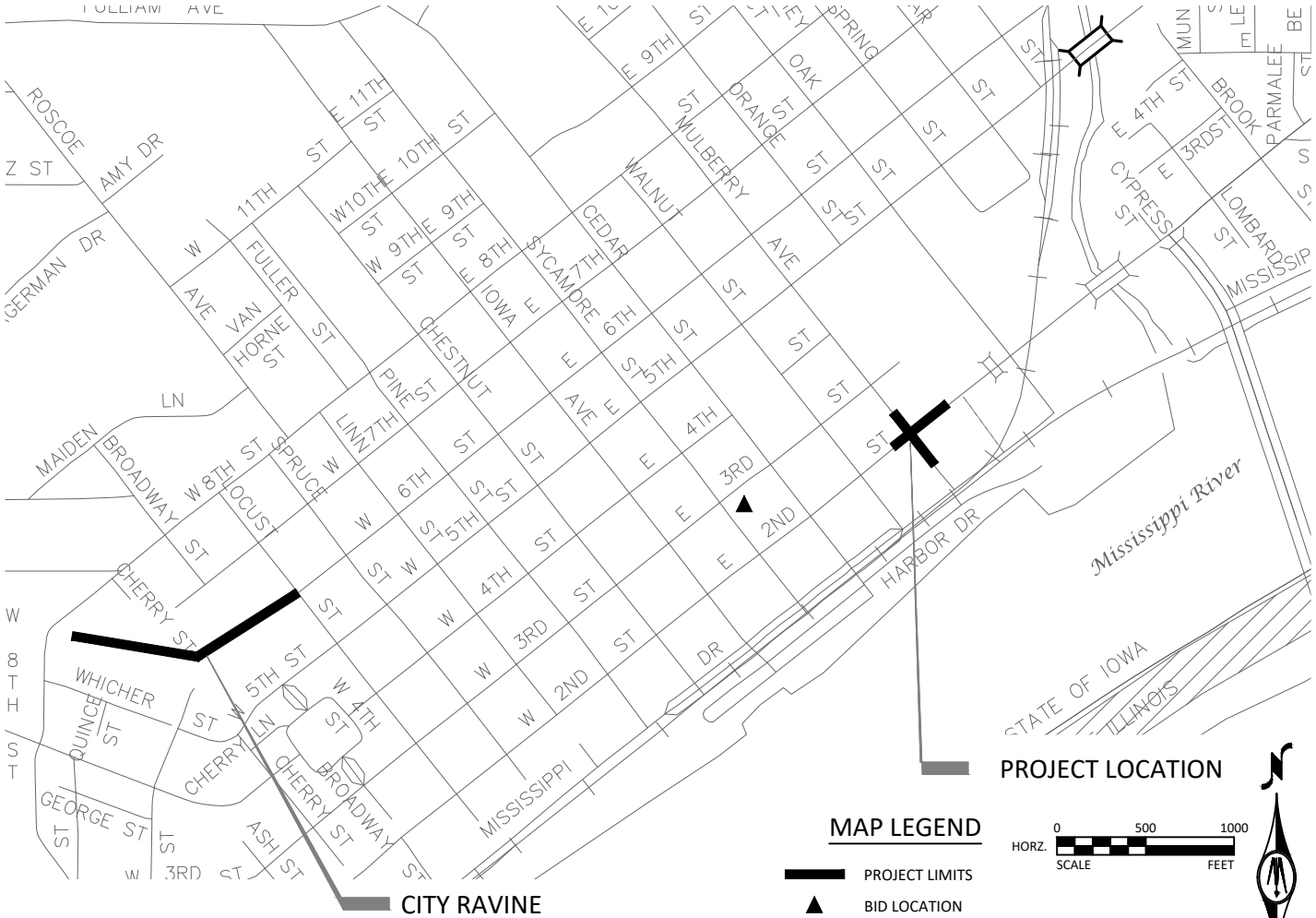
CITY OF MUSCATINE, IOWA
CONSTRUCTION PLANS FOR
2ND & MULBERRY ROUNDABOUT
2019

PLAN REVISIONS		
REV	ISSUED FOR	DATE

SHEET INDEX

SHEET NO.	SHEET TITLE
A.01	TITLE SHEET
A.02	LEGEND
A.03	OVERALL VIEW
B.01 - B.02	TYPICAL SECTIONS
B.03	DETAILS
C.01 - C.05	ESTIMATED QUANTITIES & REFERENCE NOTES
C.06 - C.09	TABULATIONS
C.10	EROSION CONTROL
R.01	UTILITY REMOVALS
R.02	PAVEMENT & LANDSCAPE REMOVALS
R.03	BORING LOGS
D.01 - D.02	MULBERRY PLAN AND PROFILE
E.01	2ND STREET PLAN AND PROFILE
E.02	TRUCK DRIVEWAY PLAN AND PROFILE
F.01 - F.04	GUTTERLINE PLAN & PROFILE
F.05	TRUCK DRIVEWAY CL PLAN & PROFILE
G.01	BENCHMARKS & CONTROL POINTS
H.01	RIGHT OF WAY
J.01	TRAFFIC CONTROL NOTES
J.02 - J.04	STAGING
L.01	JOINTING DETAILS
M.01 - M.02	WATER UTILITIES
M.03	WATER DETAILS
M.11 - M.12	ELECTRICAL AND COMMUNICATION UTILITIES
M.13	CONDUIT, TRENCH AND BOX DETAILS
M.14	STREET LIGHT FOUNDATION DETAIL
MSS.01 - MSS.03	STORM & SANITARY PLAN & PROFILE
N.01 - N.02	PAVEMENT MARKINGS & SIGNS
S.01 - S.09	SIDEWALK RAMP LAYOUT
T.01 - T.05	LANDSCAPE PLAN
U.01 - U.04	LANDSCAPE DETAILS

UTILITY CONTACTS	
Muscatine Public Works Department 1459 Washington St Muscatine, IA 52761 Jim Edgmond City Engineer ph. 563-263-8933	Communication Lines: Century Link 3908 Utica Ridge Rd Bettendorf, IA 52722 Antonio Glessner ph. 563-355-6402
Sewer Department 1459 Washington St Muscatine, IA 52761 Matt Chandler	Windstream 1450 N. Center Point Rd Hiawatha, IA 52233 Joe Green ph. 319-790-7510
Street Department 1459 Washington St Muscatine, IA 52761 Randy Howell	Muscatine Power & Water 3205 Cedar St Muscatine, IA 52761 Tom Lewis ph. 563-263-2631
Water Mains: Muscatine Power & Water 3205 Cedar St Muscatine, IA 52761 Nancy Streu ph. 563-263-2631	Iowa Communications Network (ICN) 400 East 14th St Des Moines, IA 50319 Kent Frie ph. 515-725-4725
Electric Lines: Eastern Iowa Light & Power 600 East 5th St Wilton, IA 52778 Chad Ruden ph. 563-529-3727	Gas Mains: Alliant Energy 215 Oak St Muscatine, IA 52761 John Carney ph. 563-288-3322
Muscatine Power & Water 3205 Cedar St Muscatine, IA 52761 Jeff Hedrington ph. 563-263-2631	



THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

GOVERNING SPECIFICATIONS

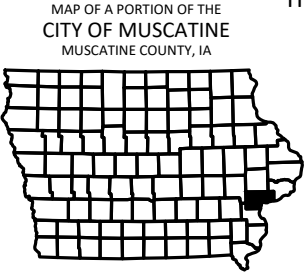
THE 2018 EDITION OF THE "IOWA STATEWIDE URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS" SHALL GOVERN.

IOWA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION", SERIES 2015 AND ALL CURRENT GENERAL SUPPLEMENTAL SPECIFICATIONS AND MATERIALS INSTRUCTIONAL MEMORANDUM SHALL GOVERN AS REFERENCED.

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.



855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com



THIS PLAN SET CONTAINS 65 SHEETS.



CITY OF MUSCATINE
ENGINEERING DEPARTMENT
MUSCATINE, IOWA

A Resolution of Necessity regarding this project was approved by the Muscatine City Council on _____

Approved for construction: _____
James Edgmond
City Engineer

I HEREBY CERTIFY THAT THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND RESPONSIBLE CHARGE. I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA.

JAMES H. HARBAUGH

REG. NO. 00366 DATE: 11/21/2018

MY LICENSE RENEWAL DATE IS JUNE 30, 2020

PAGES OR SHEETS COVERED BY THIS SEAL:

T-SERIES AND U-SERIES

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

BRADLEY W. ROETH, P.E.

REG. NO. 16536 DATE: 11/21/18

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2020

PAGES OR SHEETS COVERED BY THIS SEAL:

M-SERIES

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

ADRIAN L. HOLMES, P.E.

REG. NO. 17935 DATE: 11/21/2018

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2019

PAGES OR SHEETS COVERED BY THIS SEAL:

ALL SHEETS - EXCEPT M-SERIES, T-SERIES, AND U-SERIES

CITY OF MUSCATINE, IOWA	SHEET
2ND & MULBERRY ROUNDABOUT	A.01
TITLE SHEET	

EXISTING

	IRON PIPE MONUMENT SET		ELECTRIC TRANSFORMER		SEMAPHORE TRAFFIC LIGHT
	MONUMENT FOUND		EXHAUST VENT		SIGNAL BOX
	CAST IRON MONUMENT FOUND		FLAG POLE		SIGNAL POLE - RR
	STONE MONUMENT FOUND		FILL PIPE		SOIL BORING
	POST SET		GAS MANHOLE		SIREN
	BENCH MARK		GAS REGULATOR		SPRINKLER HEAD
	AUTO SPRINKLER		GAS VALVE		STORM MANHOLE
	ANTENNA		GAS METER		TELEPHONE MANHOLE
	AIR CONDITIONER		ACCESS GRATE		PUBLIC TELEPHONE
	ANCHOR		HANDICAPPED PARKING		TILE INLET
	AIR PUMP		HAND HOLE		TILE RISER
	APRON		HYDRANT		TRAFFIC ARM BARRIER
	BASKETBALL HOOP		IRRIGATION CONTROL VALVE		TRAFFIC SIGN
	BIRD FEEDER		LIGHT DECORATIVE		TRANSMISSION TOWER
	BENCH		LIGHT POLE		UTILITY POLE
	BRACE POLE		MAILBOX		VACUUM
	CATCH BASIN		METER		VENT PIPE
	CLOTHES LINE POLE		POST		DECIDUOUS TREE
	CONTROL POINT		MANHOLE		CONIFEROUS TREE
	CLEAN OUT		LIFT STATION MANHOLE		STUMP
	COMMUNICATION PEDESTAL		MONITORING WELL		BUSH
	CURB STOP VALVE		ORDER MICROPHONE		WELL
	DITCH TOP		PARK GRILL		WATER MANHOLE
	DRINKING FOUNTAIN		GAS PUMP		WATER METER
	DOWN SPOUT		POST INDICATOR VALVE		WATER SPIGOT
	ELECTRIC MANHOLE		PARKING METER		WATER VALVE
	ELECTRIC METER		SANITARY MANHOLE		WETLAND / MARSH
	ELECTRIC PEDESTAL		SATELLITE DISH		WETLAND - DELINEATED

	OVERHEAD ELECTRIC LINE		EASEMENT LINE
	UNDERGROUND ELECTRIC LINE		BUILDING SETBACK LINE
	GAS LINE		FENCE LINE
	FIBER OPTIC LINE		GUARD RAIL
	UNDERGROUND COMMUNICATIONS LINE		ACCESS CONTROL LINE
	OVERHEAD UTILITY LINE		CENTERLINE
	WATER SYSTEM		PROPERTY / LOT LINE
	STORM SEWER		ROAD RIGHT-OF-WAY LINE
	TILE LINE		RAILROAD RIGHT-OF-WAY LINE
	SANITARY SEWER		GRAVEL EDGE
	SANITARY FORCEMAIN		BITUMINOUS EDGE
	CULVERT		CONCRETE EDGE
	INTERMEDIATE CONTOURS		CURB & GUTTER
	INDEX CONTOURS		WATER EDGE
	COUNTY LINE		WATER CENTERLINE
	CITY LIMITS		HIGHWATER LINE
	SIXTEENTH LINE		WETLAND EDGE
	QUARTER LINE		SWALE CENTERLINE
	SECTION LINE		RAILROAD TRACKS
	ADJACENT LINES		TREE DRIP LINE

PROPOSED

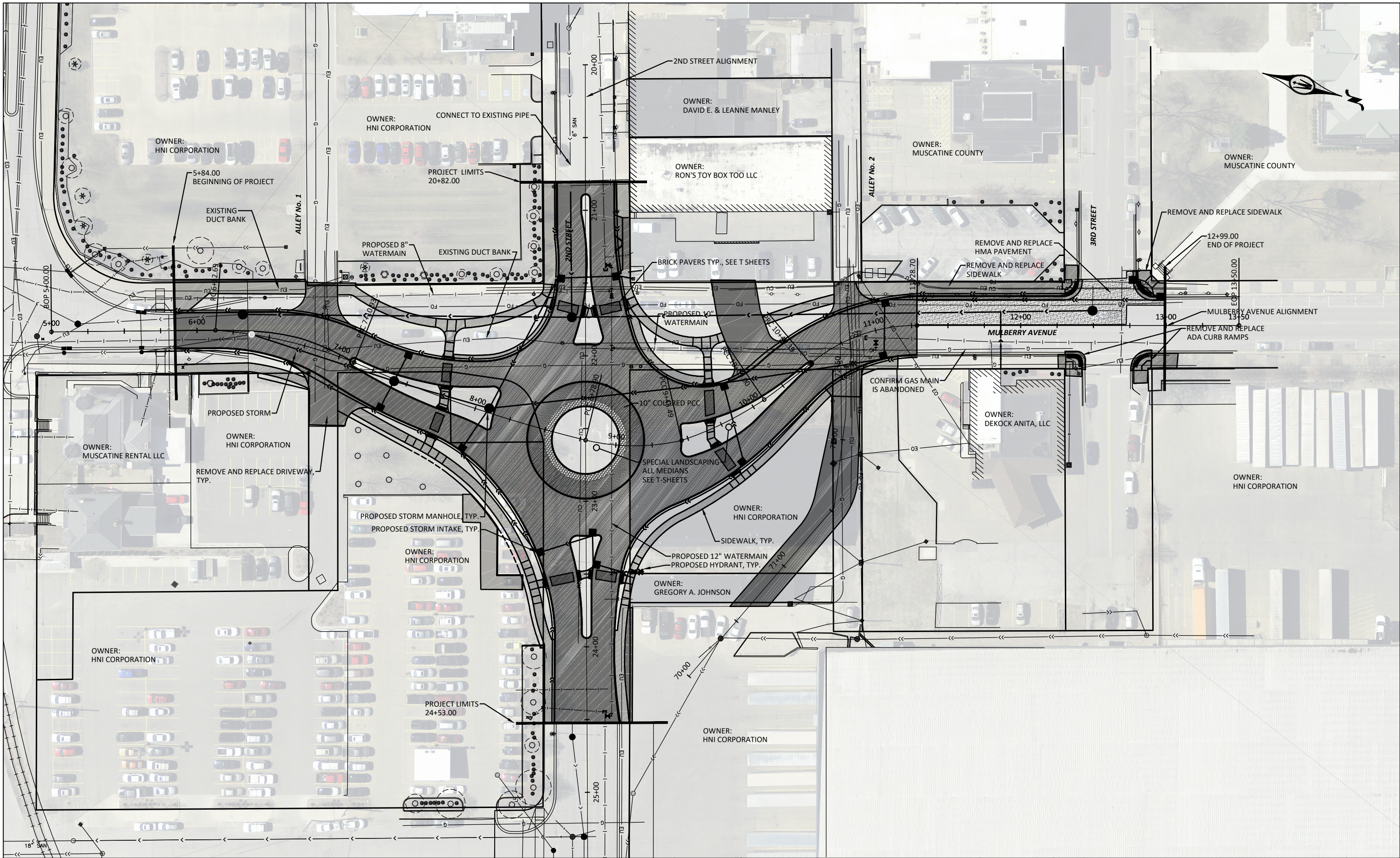
	ALIGNMENT/CENTERLINE
	RIGHT-OF-WAY LINE
	TEMPORARY EASEMENT
	CONSTRUCTION LIMITS
	CURB & GUTTER
	CURB & GUTTER (OUT)
	BITUMINOUS EDGE
	CONCRETE EDGE
	GRAVEL EDGE
	SILT FENCE-PREASSEMBLED
	SILT FENCE-HEAVY DUTY
	EROSION PROTECTION AT INLET
	MANHOLE
	CATCH BASIN
	STORM INLET
	APRON
	STORM SEWER
	PERFORATED PIPE DRAIN
	STORM DRAIN TILE
	CULVERT W/APRON
	STORM MANHOLE NUMBER
	SANITARY SEWER
	SANITARY FORCEMAIN
	SANITARY SEWER SERVICE
	SANITARY LIFT STATION
	SANITARY MANHOLE
	SANITARY MANHOLE NUMBER

	WATERMAIN
	WATERMAIN SERVICE
	WATER SYSTEM MANHOLE
	HYDRANT
	HYDRANT W/ VALVE
	VALVE
	CURBSTOP
	BEND
	REDUCER
	CROSS
	TEE
	CAP
	SLEEVE
	SIGN
	LIGHT POLE
	GUARD RAIL
	SOIL BORING
	WETLAND
	BUSH
	CONIFEROUS TREE
	DECIDUOUS TREE
	LIGHT POLE



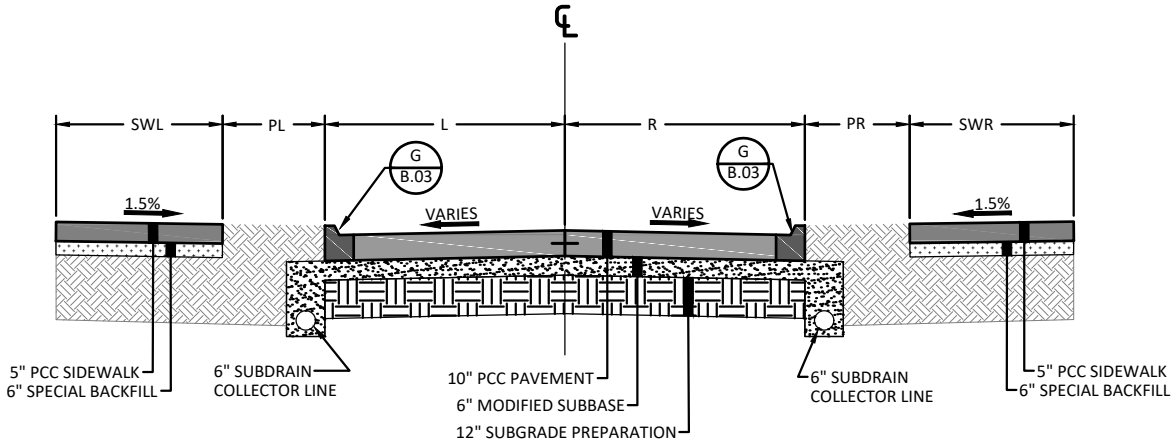
REV	ISSUED FOR	DATE	DESIGNED JGS
			DRAWN JGS
			CHECKED ALH

CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
LEGEND



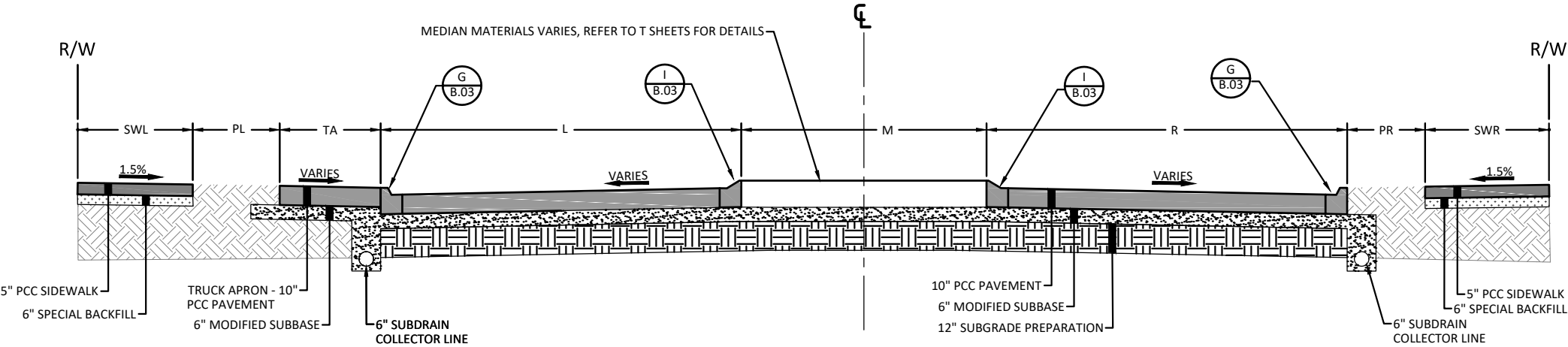
TYPICAL DIMENSIONS AT STATIONS

LOCATION	WIDTHS									TYPICAL
STA	SWL	PL	TA	L	M	R	PR	SWR		
5+85	22.5	0	0	12	0	12	11	6	1	
6+25	10	12.5	0	12	0	12	10	6	1	
6+50	10	12.5	0	14	0	14	7.75	6	1	
7+50	6	20	0	18	11	18	5.25	6	2	
8+00	6	20.5	4	20	24	20	8.75	6	2	
9+50	6	20	7	26	22.5	24.5	5	5	2	
10+00	6	27.25	0	19	11	17	3	5	2	
10+50	6	14	0	19	3	17	2	5	2	
11+00	13	0	0	15	0	15	0	5.5	1	



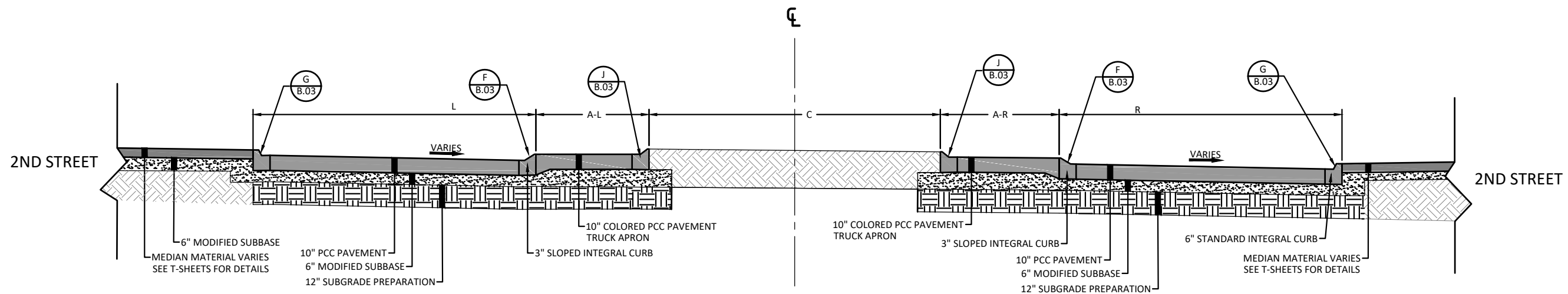
FROM STA: 5+85.00 TO: 7+11.00
FROM STA: 10+49.33 TO: 11+28.70

1
B.01 MULBERRY AVENUE AND 2ND STREET TYPICAL SECTION
TYPICAL SECTION NOT TO SCALE



FROM STA: 7+11.00 TO: 8+12.89
FROM STA: 9+45.49 TO: 10+49.33

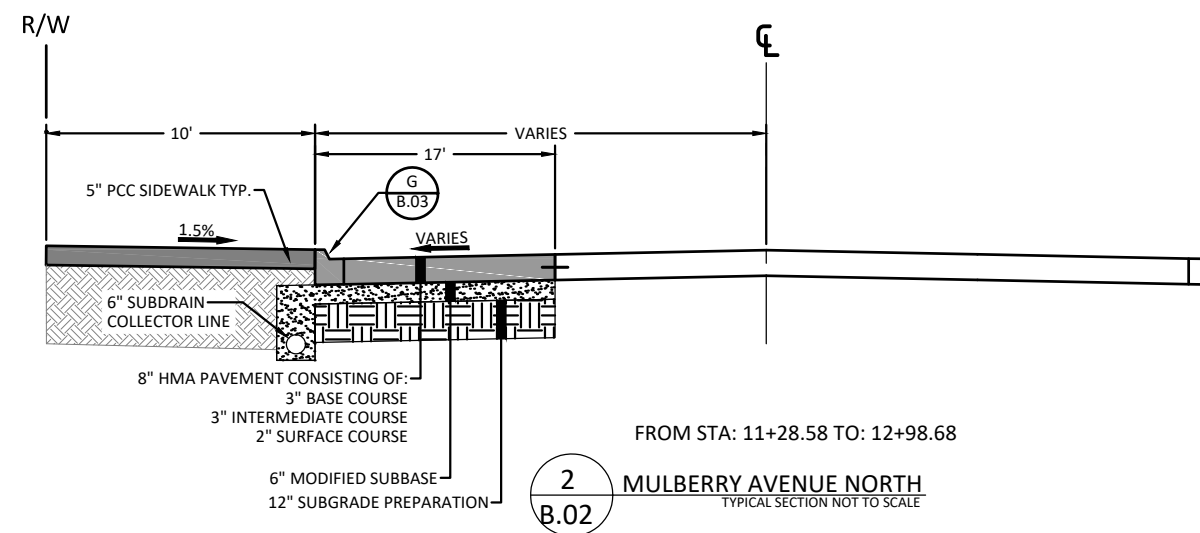
2
B.01 APPROACH ROAD TYPICAL SECTION
TYPICAL SECTION NOT TO SCALE



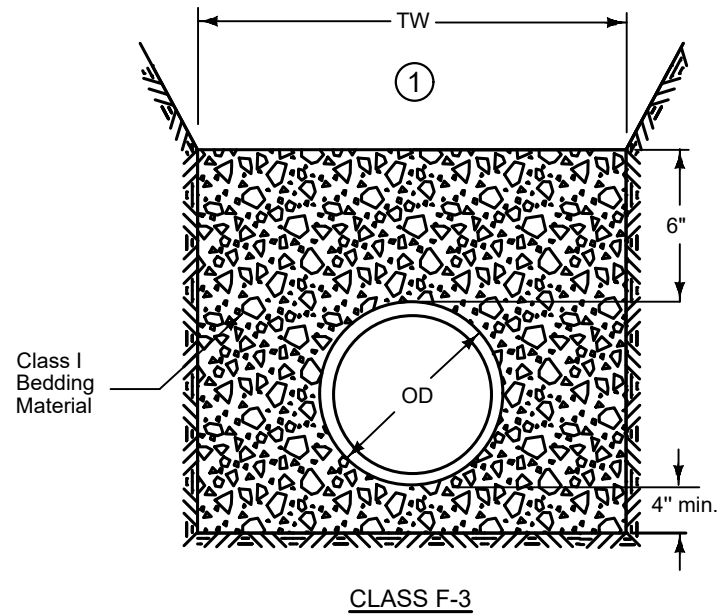
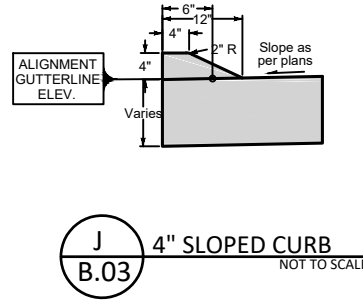
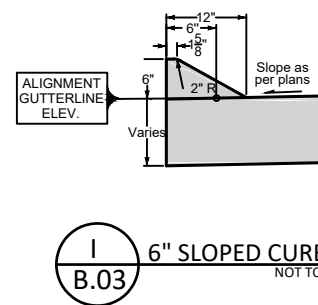
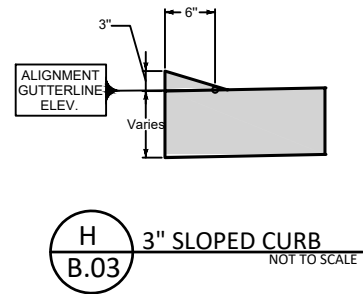
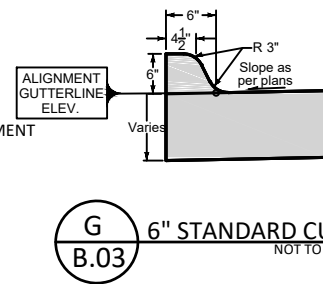
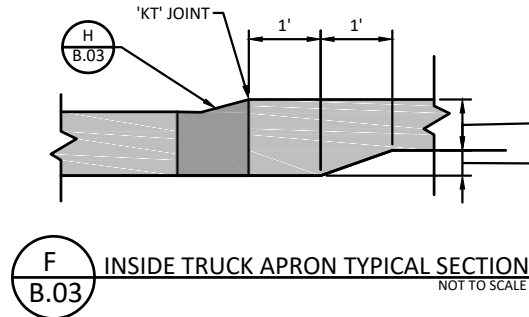
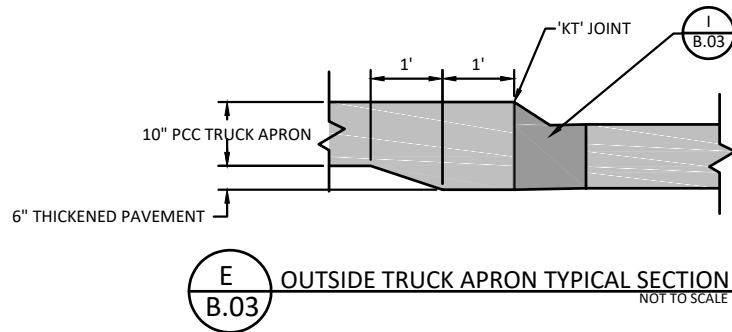
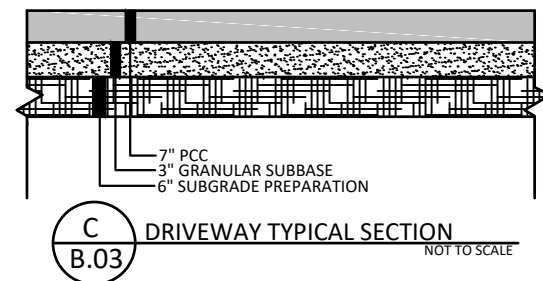
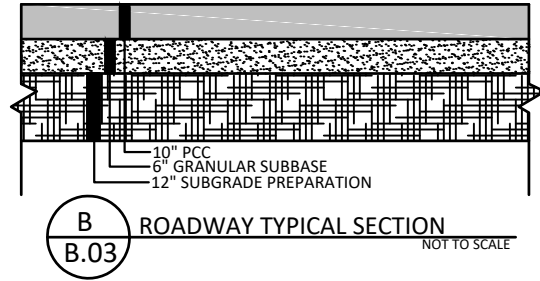
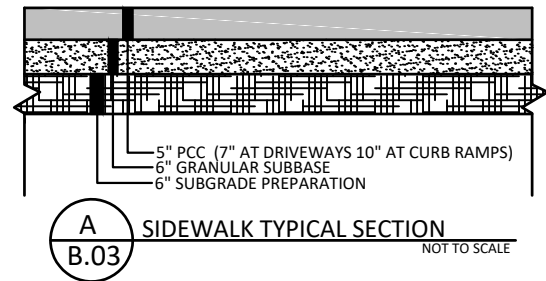
1
B.02 **ROUNDBOUT TYPICAL SECTION**
TYPICAL SECTION NOT TO SCALE

TYPICAL DIMENSIONS AT STATIONS

LOCATION	WIDTHS										TYPICAL
STA	SWL	PL	L	A-L	C	A-R	R	PR	SWR		
8+75	0	0	25	17	46	17	25	0	0	1	



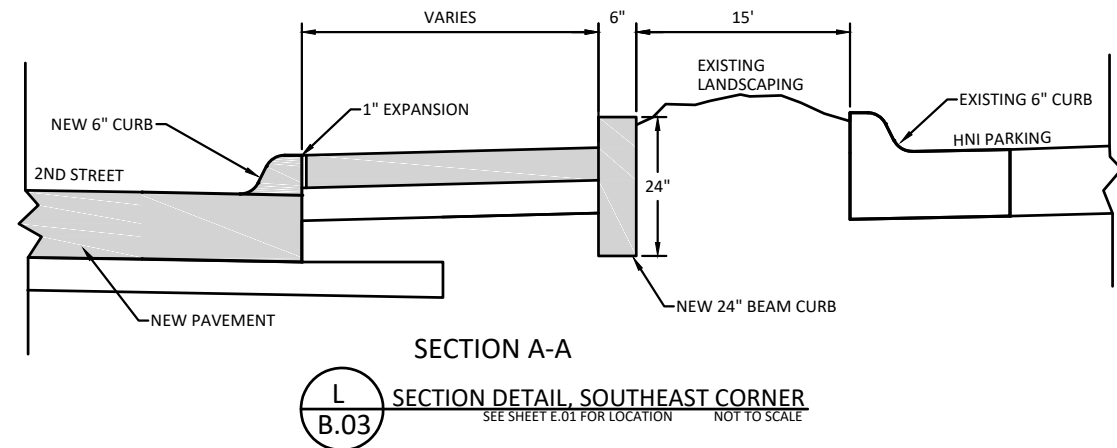
2
B.02 **MULBERRY AVENUE NORTH**
TYPICAL SECTION NOT TO SCALE



Key

OD = Outside diameter of pipe

TW = Trench width at top of pipe:
Min. = OD+18 inches OR 1.25xOD+12 inches
(whichever is greater)



ESTIMATED PROJECT QUANTITIES					
ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QNTY
SECTION 1010 - GENERAL PROVISIONS					
1	1070-206-A-0	TRAFFIC CONTROL	LS	1	
SECTION 2010 - EARTHWORK, SUBGRADE, AND SUBBASE					
2	2010-108-C-0	CLEARING AND GRUBBING	LS	1	
3	2010-108-D-3	TOPSOIL, OFF SITE	CY	200	
4	2010-108-D-X	TOPSOIL, OFF SITE, LOAD & SPREAD	CY	800	
5	2010-108-E-0	EXCAVATION, CLASS 13	CY	2,900	
6	2010-108-G-0	SUBGRADE PREPARATION	SY	5,850	
7	2010-108-G-X	SUBGRADE STABILIZATION, 12-INCH	CY	500	
8	2010-108-H-0	SUBGRADE TREATMENT, GEOTEXTILE	SY	400	
9	2010-108-I-2	SUBBASE, MODIFIED SUBBASE, 6-INCH	SY	5,850	
10	2010-108-X-2	REMOVAL, HYDRANT	EA	3	
11	2010-108-X-3	REMOVAL, TRAFFIC SIGNAL FOUNDATION	EA	3	
12	2010-108-X-4	REMOVAL, STREET LIGHT POLES AND FOUNDATIONS	EA	13	
13	2010-108-X-5	EXPLORATORY EXCAVATION	LF	100	
SECTION 3010 - TRENCH EXCAVATION AND BACKFILL					
14	3010-108-C-0	TRENCH FOUNDATION	TON	200	
15	3010-108-D-0	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL	CY	2,600	
16	3010-108-D-0	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL, COHESIVE BACKFILL	CY	320	
17	3010-108-X-X	RAVINE FILL AREA EARTHWORK MANAGEMENT	CY	2,920	
18	3010-108-F-0	TRENCH COMPACTION TESTING	LS	1	
SECTION 4010 - SANITARY SEWERS					
19	4010-108-A-1	SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 8 INCH	LF	680	
20	4010-108-E-0	SANITARY SEWER SERVICE STUB, PVC, 6"	LF	40	
21	4010-108-H-0	REMOVAL OF SANITARY SEWER, LESS THAN 36"	LF	690	
22	4010-108-K-0	SANITARY SEWER ABANDONMENT, 8" DIA.	LF	205	
SECTION 4020 - STORM SEWERS					
23	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 15 INCH	LF	970	
24	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 18 INCH	LF	180	
25	4020-108-C-0	REMOVAL OF STORM SEWER, LESS THAN 36 INCH	LF	8	
26	4040-108-A-0	SUBDRAIN, HPDE, 6 INCH	LF	1,490	
27	4040-108-C-0	SUBDRAIN CLEANOUT	EA	5	
28	4040-108-D-0	SUBDRAIN OUTLETS AND CONNECTIONS	EA	7	
SECTION 5010 - PIPE AND FITTINGS					
29	5010-108-A-1	WATER MAIN, TRENCHED, FUSED HDPE, 12"	LF	477	
30	5010-108-A-1	WATER MAIN, TRENCHED, FUSED HDPE, 10"	LF	26	
31	5010-108-A-1	WATER MAIN, TRENCHED, FUSED HDPE, 6"	LF	238	
32	5010-108-C-1	CUT AND CAP, 10"	EA	1	
33	5010-108-C-1	CUT AND CAP, 12"	EA	2	
34	5010-108-D-0	WATER SERVICE STUB, COPPER, 1-INCH	LF	470	
SECTION 5020 - VALVES, FIRE HYDRANTS, AND APPURTENANCES					
35	5020-108-B-0	TAPPING SLEEVE AND VALVE, 12"x12"	EA	2	
36	5020-108-B-0	TAPPING SLEEVE AND VALVE, 10"x10"	EA	1	
37	5020-108-H-0	HYDRANT, ASSEMBLY	EA	1	
SECTION 6010 - STRUCTURES FOR SANITARY AND STORM SEWERS					
38	6010-108-A-0	MANHOLE TYPE SW-301, 60 INCH	EA	2	
39	6010-108-A-0	MANHOLE TYPE SW-401, 60 INCH	EA	1	
40	6010-108-B-0	INTAKE TYPE SW-501	EA	14	
41	6010-108-B-0	INTAKE TYPE SW-503	EA	1	
42	6010-108-F-0	MANHOLE ADJUSTMENT, MAJOR	EA	1	
43	6010-108-H-0	REMOVE MANHOLE	EA	4	
44	6010-108-H-0	REMOVE INTAKE	EA	6	
SECTION 7010 - PORTLAND CEMENT CONCRETE PAVEMENT					
45	7010-108-A-0	PAVEMENT, PCC, 10 INCH	SY	4,055	
46	7010-108-A-0	PAVEMENT, PCC, 10 INCH, COLORED	SY	413	
47	7010-108-E-0	CURB AND GUTTER, 36 INCH, 10 INCH THICK	LF	206	
48	7010-108-F-0	BEAM CURB	LF	40	

49	7010-108-I-0	PCC PAVEMENT SAMPLES AND TESTING	LS	1	
SECTION 7020 - HOT MIX ASPHALT PAVEMENT					
50	7020-108-B-0	HMA PAVEMENT, 8 INCH	SY	360	
SECTION 7030 - SIDEWALKS, SHARED USE PATHS, AND DRIVEWAYS					
51	7030-108-A-0	REMOVAL OF SIDEWALK	SY	1,486	
52	7030-108-A-0	REMOVAL OF DRIVEWAY	SY	268	
53	7030-108-E-0	SIDEWALK, PCC, 5 IN.	SY	1,390	
54	7030-108-E-0	SIDEWALK, PCC, 10 IN. (RAMP)	SY	110	
55	7030-108-E-0	CONCRETE MEDIANS, APRON, BANDING, PCC, 10 IN.	SY	301	
56	7030-108-F-1	CONCRETE UNIT PAVERS TYPE B & C WITH SAND SETTING BED & PCC SUBBASE	SF	1,300	
57	7030-108-F-2	HISTORIC PAVERS, TYPE A WITH SAND SETTING BED & PCC SUBBASE (PAVERS FURNISHED BY CITY)	SF	550	
58	7030-108-F-3	CROSSWALK PAVERS WITH 3/4" ASPHALT SETTING BED	SF	720	
59	7030-108-G-0	DETECTABLE WARNING	SF	300	
60	7030-108-H-1	DRIVEWAY, PAVED, PCC, 7 INCH	SY	600	
61	7030-108-H-1	DRIVEWAY, PAVED, PCC, 10 INCH	SY	505	
SECTION 7040 - PAVEMENT REHABILITATION					
62	7040-108-H-0	PAVEMENT REMOVAL	SY	4,225	
SECTION 8020 - PAVEMENT MARKINGS					
63	8020-108-B-0	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE	STA	27.0	
SECTION 9010 - SEEDING					
64	9010-108-B-0	SEEDING, FERTILIZING & HYDROMULCHING	AC	0.5	
SECTION 9020 - SODDING					
65	9020-108-A-0	SOD	SQ	150	
SECTION 9030 - PLANT MATERIAL AND PLANTING					
66	9030-108-B-0	DECIDUOUS SHRUBS	EA	19	
67	9030-108-B-0	ORNAMENTAL TREE	EA	8	
68	9030-108-B-0	PERENNIAL GROUND COVER (1 GAL)	EA	558	
69	9030-108-B-0	DECIDUOUS TREE	EA	18	
SECTION 9040 - EROSION AND SEDIMENT CONTROL					
70	9040-108-A-2	SWPPP MANAGEMENT	LS	1	
71	9040-108-D-1	FILTER SOCKS, 12 INCH	LF	1,800	
72	9040-108-N-1	SILT FENCE OR SILT FENCE DITCH CHECK	LF	200	
73	9040-108-T-1	INLET PROTECTION DEVICE, DROP IN PROTECTION	EA	21	
SECTION 11010 - CONSTRUCTION SURVEY					
74	11,010-108-A	CONSTRUCTION SURVEY	LS	1	
SECTION 11020 - MOBILIZATION					
75	11,020-108-A	MOBILIZATION	LS	1	
SECTION 11050 - CONCRETE WASHOUT					
76	11,050-108-A	CONCRETE WASHOUT	LS	1	
SECTION 12010 - SPECIALTY ITEMS					
77	12010-XXX-X-1	LIMESTONE EDGER	LF	310	
78	12010-XXX-X-2	BOULDER SEATWALLS	LF	25	
SECTION 12,020 - SPECIALTY ITEMS, ELECTRICAL, DUCT BANK					
79	12,020-XXX-X-1	DUCT BANK, 3x2 CONFIGURATION	LF	381	
SECTION 12,030 - SPECIALTY ITEMS, ELECTRICAL, DISTRIBUTION					
80	12,030-XXX-X-1	ELECTRICAL CONDUIT, OPEN CUT, HDPE OR PVC, 6-INCH	LF	321	
81	12,030-XXX-X-2	ELECTRICAL CONDUIT, OPEN CUT, HDPE OR PVC, 2-INCH	LF	1,341	
82	12,030-XXX-X-3	JUNCTION BOX, ELECTRICAL, 13"x24"	EA	2	
83	12,030-XXX-X-4	JUNCTION BOX, ELECTRICAL, 10" DIAMETER	EA	1	
84	12,030-XXX-X-5	FOUNDATION, STREET LIGHT	EA	10	
SECTION 12,040 - SPECIALTY ITEMS, COMMUNICATION					
85	12,040-XXX-X-1	COMMUNICATION CONDUIT, OPEN CUT, HDPE, QUAD DUCT (4x1.5-INCH)	LF	647	
86	12,040-XXX-X-2	HAND HOLE, COMMUNICATIONS, 30"x48"	EA	2	



**BOLTON
& MENK**

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com



REV	ISSUED FOR	DATE	DESIGNED JGS
			DRAWN JGS
			CHECKED ALH

CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
ESTIMATED QUANTITIES & REFERENCE NOTES

SHEET
C.01

ESTIMATE REFERENCE NOTES		
Item No.	Item Code	Description
1	1070-206-A-0	TRAFFIC CONTROL A. REFER TO J SHEETS FOR DETAILS. EXISTING SIGNS SHALL BE REMOVED BY THE CONTRACTOR TO FACILITATE EACH STAGE OF CONSTRUCTION. CONTRACTOR IS TO NOTIFY THE CITY WHEN SIGNS NEED TO BE PICKED UP. THIS ITEM INCLUDES ALL TEMPORARY SIGNS, BARRICADES, PAVEMENT MARKING REMOVALS, AND TRAFFIC CONTROL DEVICES REQUIRED TO EXECUTE TRAFFIC CONTROL IN ACCORDANCE WITH MUTCD.
2	2010-108-C-0	CLEARING AND GRUBBING A. THIS ITEM INCLUDES THE REMOVAL OF ALL TREES, STUMPS, BUSHES, AND ROOTS WITHIN THE EASEMENTS AND CONSTRUCTION LIMITS FOR PROPER INSTALLATION OF PROPOSED ITEMS. REMOVAL SHALL BE TO A DEPTH OF 12" BELOW PROPOSED GRADE. ADDITIONAL TREES OR STUMPS THAT NEED TO BE REMOVED WILL REQUIRE PERMISSION FROM THE ENGINEER PRIOR TO COMPLETION OF THE WORK. PROTECT ALL TREES NOT MARKED FOR REMOVAL. REMOVAL OF PREVIOUSLY FELLED TREES AND BRUSH ARE INCLUDED IN THIS PAY ITEM. ALL TRASH AND DEBRIS LOCATED WITHIN THE PROJECT LIMITS SHALL ALSO BE REMOVED, COST INCIDENTAL. CONTRACTOR MAY DISPOSE OF TREES, BRUSH AND ORGANIC DEBRIS AT THE CITY COMPOSE SITE LOCATED OFF OF HOUSER ST. AT MUSSER ST. AT NO CHARGE TO THE CONTRACTOR.
3	2010-108-D-3	TOPSOIL, OFF SITE A. CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH AND SPREAD TO ALLOW FOR A MINIMUM OF FINISHED DEPTH OF 6" OF TOPSOIL. QUANTITY IS BASED ON 6" OF TOPSOIL LOCATED BETWEEN THE BACK OF CURB AND THE EDGE OF THE PROJECT LIMITS. ITEM IS TO SUPPLEMENT TOPSOIL PROVIDED BY CITY. USE OF THIS ITEM MUST RECEIVE PRIOR APPROVAL BY THE ENGINEER.
4	2010-108-D-X	TOPSOIL, OFF SITE, LOAD & SPREAD A. CITY SHALL BE RESPONSIBLE TO FURNISH TOPSOIL AND CONTRACTOR SHALL BE RESPONSIBLE TO LOAD, TRANSPORT AND SPREAD TO A MINIMUM FINISHED DEPTH OF 6 INCHES. HAUL DISTANCE SHALL BE NO MORE THAN 3 MILES ROUND TRIP. QUANTITY IS BASED ON 6" OF TOPSOIL LOCATED BETWEEN THE BACK OF CURB AND THE EDGE OF THE PROJECT LIMITS.
5	2010-108-E-0	EXCAVATION, CLASS 13 A. THIS ITEM SHALL INCLUDE THE REMOVAL OF EXISTING SOIL AND AGGREGATE BASE, HAULING AND PLACEMENT OF THE MATERIAL WITHIN THE GRADING LIMITS, HAULING AND PLACEMENT OF EXCESS SOIL(WASTE), AND HAULING AND PLACEMENT OF BORROW MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS AND THESE PLANS. THE CONTRACTOR SHALL DISPOSE OF EXCESS MATERIAL AND MATERIAL THAT IS NOT SUITABLE FOR EMBANKMENT CONSTRUCTION TO LOCATIONS AS DESIGNATED BY THE ENGINEER. ANY BRICKS FOUND DURING EXCAVATION SHALL BE SALVAGED TO THE YARD LOCATED AT PUBLIC WORKS. ITEM DOES NOT INCLUDE ANY UTILITY TRENCH EXCAVATION. B. THE CITY RAVINE SITE LOCATED LESS THAN 3 MILES ROUND TRIP FROM THE PROJECT AREA SHALL BE USED FOR BOTH THE BORROW SITE AND DISPOSAL OF UNSUITABLE OR EXCESS SOIL. REFER TO SHEET MAP ON A.01 FOR LOCATION OF CITY RAVINE SITE. C. THE FINISHED GRADE SHALL BE OF UNIFORM CROSS-SECTION AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF THE MODIFIED SUBBASE. CONTRACTOR SHALL NOTIFY CITY OF ANY DISPUTE WITH EXCAVATION PLAN PRIOR TO CONSTRUCTION, OTHERWISE PLAN QUANTITY WILL BE USED FOR PAYMENT. ESTIMATED CUT VOLUME = 2900 CY ESTIMATED FILL VOLUME = 1000 CY EST. FILL * 1.3 (FILL FACTOR) = 1300 CY ESTIMATED TO BE WASTED = 1600 CY
6	2010-108-G-0	SUBGRADE PREPARATION A. INCLUDES SUBGRADE PREPARATION FOR ALL ROADWAY PAVEMENT TO A DEPTH OF 12 INCHES. QUANTITY IS BASED ON THE AREA OF 12 INCH SUBGRADE PREPARATION, COMPLETED IN 2 - 6" LIFTS, EXTENDING 2 FOOT BEYOND THE PAVEMENT EDGE. BOTH LIFTS SHALL BE COMPACTED AND PROOFROLLED TO SATISFACTION OF ENGINEER. THE TOP LIFT SHALL BE LEVELED AND SMOOTHED WITH A STEEL DRUM ROLLER AND PROOF ROLLED PRIOR TO STARTING SUBBASE PLACEMENT. B. IN INSTANCES OF CONFLICT WITH UTILITIES, THE DEPTH MAY BE REDUCED AS DIRECTED BY THE ENGINEER. PREPARATION UNDER ENTRANCES, DRIVES AND SIDEWALKS SHALL BE INCIDENTAL TO THOSE ITEMS.
7	2010-108-G-X	SUBGRADE STABILIZATION, 12-INCH A. THIS ITEM SHALL BE USED AT THE DISCRETION OF THE ENGINEER/OWNER. CONTRACTOR SHALL OBTAIN APPROVAL OF ENGINEER/OWNER PRIOR TO UTILIZING THIS ITEM. THIS ITEM INVOLVES THE OVEREXCAVATION OF UNSUITABLE SOIL WITHIN THE RIGHT OF WAY. THE CONTRACTOR SHALL OVEREXCAVATE ONE FOOT OF MATERIAL, COMPACT BOTTOM OF OVEREXCAVATION, PLACE GEOTEXTILE FABRIC ON BOTTOM OF OVEREXCAVATION (NOT A PART OF THIS BID ITEM) AND REPLACE UNSUITABLE MATERIAL WITH MODIFIED SUBBASE. B. THIS ITEM SHALL INCLUDE EXCAVATION OF UNSUITABLE MATERIAL, HAULING OF UNSUITABLE MATERIAL TO CITY RAVINE SITE, COMPACTION OF OVEREXCAVATED AREA, PLACEMENT OF ONE FOOT OF MODIFIED SUBBASE AND COMPACTION OF MODIFIED SUBBASE.
8	2010-108-H-0	SUBGRADE TREATMENT, GEOTEXTILE A. THIS PAY ITEM SHALL BE THE GEOTEXTILE FABRIC USED IN THE SUBGRADE STABILIZATION. THIS ITEM SHALL BE NON-WOVEN PERMEABLE FABRIC MEETING THE REQUIREMENT OF ASTM D-4439. FABRIC SHALL MEET THE REQUIREMENTS OF IOWA DOT 4196 SUBGRADE STABILIZATION MATERIAL.
9	2010-108-I-2	SUBBASE, MODIFIED SUBBASE, 6-INCH A. MODIFIED SUBBASE TO BE INSTALLED WHERE NOTED IN THE TYPICAL SECTIONS, INCLUDING THE AREAS UNDER PCC PAVEMENT, HMA PAVEMENT AND EXTEND 2' BEYOND THE BACK OF CURB. B. CONTRACTOR MAY RECYCLE THE PCC PAVEMENT THAT IS REMOVED AS PART OF THIS PROJECT TO CREATE THE MODIFIED SUBBASE AS LONG AS THE CRUSHED MATERIAL MEETS THE GRADATION OF MODIFIED SUBBASE. RECYCLED MATERIAL FROM THIS PROJECT AND/OR VIRGIN MATERIAL MAY BE USED.
10	2010-108-X-2	REMOVAL, HYDRANT A. REFER TO SHEETS M.01 THRU M.02 FOR REMOVAL LAYOUT. REFER TO SHEET C.07 FOR TABULATION. THIS ITEM SHALL INCLUDE ANY EXCAVATION, SUITABLE BACKFILL, AND COMPACTION REQUIRED FOR REMOVING THE HYDRANT AND PIPE THREE FEET BELOW FINISH GRADE, REMOVING THE TOP SECTION OF THE VALVE BOX, AND CAPPING THE WATER MAIN.
11	2010-108-X-3	REMOVAL, TRAFFIC SIGNAL FOUNDATION A. REFER TO SHEETS M.11 THRU M.12 FOR REMOVAL LAYOUT. REFER TO SHEET C.07 FOR TABULATION. THIS ITEM INCLUDES THE DEMOLITION OF EXISTING FOUNDATIONS TO 24-INCHES BELOW FINISH GRADE. MPW SHALL REMOVE ALL TRAFFIC SIGNAL POLES. CONTRACTOR SHALL COORDINATE REMOVAL OF TRAFFIC SIGNAL POLES WITH MPW.
12	2010-108-X-4	REMOVAL, STREET LIGHT POLES AND FOUNDATIONS A. REFER TO SHEETS M.11 THRU M.12 FOR REMOVAL LAYOUT. REFER TO SHEET C.07 FOR TABULATION. THIS ITEM INCLUDES THE REMOVAL AND DISPOSAL OF ALL STREET LIGHT POLES AND FOUNDATIONS. THE CONTRACTOR SHALL PROVIDE MPW WITH A TWO WEEK NOTICE OF ANY STREET LIGHT POLE DEMOLITION. MPW SHALL REMOVELIGHT FIXTURES FROM THE POLES. CONTRACTOR SHALL PROTECT STREET LIGHTS AND POLES AS NOTED ON R.01.
13	2010-108-X-5	EXPLORATORY EXCAVATION A. THIS ITEM IS FOR THE INVESTIGATION OF LOCATIONS AND ELEVATIONS OF AN EXISTING UTILITY TO VERIFY THE POTENTIAL FOR CONFLICTS AND/OR CONNECTIONS. CONTRACTOR HAS THE OPTION TO USE OPEN EXCAVATION OR VACUUM TYPE EQUIPMENT TO PERFORM THE EXCAVATION DEPENDING UPON SITE CONDITIONS. PAYMENT INCLUDES THE PROPER BACKFILLING OF THE EXCAVATION AND DISPOSAL OF UNSUITABLE MATERIAL OFFSITE. THE ENGINEER OR THEIR REPRESENTATIVE MUST VERIFY THE CONDITIONS FOUND. QUANTITY IS ESTIMATED TO ESTABLISH A UNIT PRICE. ONLY QUANTITY APPROVED BY ENGINEER PRIOR TO WORK WILL BE PAID. B. ITEM IS NOT INTENDED TO BE USED TO FIND KNOWN UTILITY LOCATIONS
14	3010-108-C-0	TRENCH FOUNDATION A. AT THE DISCRETION OF THE ENGINEER THIS ITEM IS TO INCORPORATE TRENCH FOUNDATION WHERE UNSUITABLE MATERIALS ARE FOUND BELOW THE PIPE BEDDING DURING CONSTRUCTION. QUANTITY IS ESTIMATED TO ESTABLISH A UNIT PRICE. THE ACTUAL TRENCH FOUNDATION QUANTITY USED WILL BE PAID. ENGINEER SHALL APPROVE ALL TRENCH FOUNDATION LOCATIONS PRIOR TO CONTRACTOR PERFORMING THIS WORK.
15	3010-108-D-0	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL A. THIS ITEM SHALL BE USED TO BACKFILL ANY TRENCHES OR EXCAVATIONS WHERE THE EXCAVATION IS WITHIN 10 FOOT OF ROADWAY PAVEMENT. TRENCHES NOT WITHIN 10 FEET OF ROADWAY PAVEMENT SHALL HAVE NATIVE SOIL BACKFILL AND SHALL BE INCIDENTAL TO PIPE. EXCAVATED MATERIAL SHALL BE DISPOSED OF AT THE CITY RAVINE SITE. B. REPLACEMENT MATERIAL SHALL BE MANSAND OR GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. C. REPLACEMENT MATERIAL QUANTITY IS CALCULATED AT A WIDTH OF PIPE DIAMETER PLUS 2 FOOT WITH VERTICAL TRENCH WALL TO WITHIN 2 FOOT OF THE BOTTOM OF THE ROCK AND THEN FLARE OUT AT A 1:1 SLOPE TO THE BOTTOM OF ROCK. REPLACEMENT MATERIAL SHALL BE MEASURED FROM TOP OF PIPE BEDDING TO BOTTOM OF SUBBASE MATERIAL. D. UTILITY TRENCH BACKFILL SHOULD BE PLACED AND COMPACTED AS DESCRIBED IN THE SUDAS STANDARD SPECIFICATIONS, SECTION 3010, WITH THE FOLLOWING MODIFICATIONS: CLASS I AND II (CLEAN GRANULAR) BACKFILL MATERIALS SHOULD BE COMPACTED TO AT LEAST 70% RELATIVE DENSITY WITHIN 10 FEET OF THE ROADWAY, REGARDLESS OF DEPTH OR POSITION RELATIVE TO THE UTILITY LINE. CLASS III AND IVA (GRANULAR WITH FINES AND COHESIVE) BACKFILL MATERIALS SHOULD BE COMPACTED TO AT LEAST 95% STANDARD PROCTOR DENSITY WITHIN 10 FEET OF THE ROADWAY, REGARDLESS OF DEPTH OR POSITION RELATIVE TO THE UTILITY LINE.
16	3010-108-D-0	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL, COHESIVE BACKFILL A. THIS ITEM SHALL BE USED AS BACKFILL MATERIAL AROUND THE CONCRETE ELECTRIC DUCT BANK. THIS MATERIAL SHALL BE PLACED UP TO THE EXISTING GRADE OR TO THE ELEVATION OF THE ROADWAY SUBBASE, WHICH EVER IS HIGHER. REFER TO SUDAS SECTION 2010 FOR SUITABLE SELECT BACKFILL. THIS MATERIAL SHALL BE A COHESIVE SOIL. B. UTILITY TRENCH BACKFILL SHOULD BE PLACED AND COMPACTED AS DESCRIBED IN THE SUDAS STANDARD SPECIFICATIONS, SECTION 2010, WITH THE FOLLOWING MODIFICATIONS: CLASS III AND IVA (GRANULAR WITH FINES AND COHESIVE) BACKFILL MATERIALS SHOULD BE COMPACTED TO AT LEAST 95% STANDARD PROCTOR DENSITY WITHIN THE RIGHT OF WAY, REGARDLESS OF DEPTH OR POSITION RELATIVE TO THE UTILITY LINE.
17	3010-108-X-X	RAVINE FILL AREA EARTHWORK MANAGEMENT A. UNIT PRICE INCLUDES ALL COSTS OF LABOR AND EQUIPMENT NEEDED TO DO THE GRADING ASSOCIATED WITH WASTING AND BORROWING MATERIAL IN THE CITY OF MUSCATINE'S DESIGNATED RAVINE FILL AREA. WHERE THE MATERIAL IS TO BE BORROWED AND WASTED SHALL BE DEFINED BY THE CITY ENGINEER AND IS TO BE IN COMPLIANCE WITH THE CITY OF MUSCATINE'S RAVINE GRADING PLAN. THE PLAN IS AVAILABLE FOR REVIEW FROM THE CITY. PRICE INCLUDES GRADING AREAS WHERE WASTE EXCAVATION MATERIAL HAS BEEN DUMPED AT THE RAVINE AND REGRADING AREAS WHERE BORROW MATERIAL HAS BEEN EXCAVATED. THIS GRADING IS TO ESTABLISH REQUIRED DRAINAGE FOR THE AREAS CHANGED AND WILL BE DIRECTED BY THE ENGINEER. PAYMENT WILL BE BASED ON THE ACTUAL QUANTITY FOR THE REPLACEMENT OF UNSUITABLE BACKFILL ITEMS. NO ADDITIONAL COMPENSATION WILL BE MADE FOR MATERIALS REMOVED FROM THE RAVINE FOR USE ON THIS PROJECT. THE RAVINE IS ALSO USED FOR THE OPERATIONS OF THE CITY OF MUSCATINE'S SANITARY AND STORM SEWER SEPARATION PROJECT CONTRACTOR, AS WELL BY CITY FORCES. CONTRACTOR IS REQUIRED TO COORDINATE HIS ACTIVITIES IN THIS RAVINE WITH ALL OTHER CONTRACTORS AND WORK WITH THE OTHER CONTRACTORS TO KEEP THE STREETS USED FOR ACCESS CLEAN AND CLEAR OF ALL MUD, DUST AND DELETERIOUS MATERIAL CREATED FROM THE HAULING OPERATIONS. ACCESS WILL BE FROM THE INTERSECTION OF WEST 6TH AND LOCUST STREETS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
18	3010-108-F-0	TRENCH COMPACTION TESTING A. TRENCH COMPACTION TESTING IS REQUIRED FOR ALL TRENCHES.
19	4010-108-A-1	SANITARY SEWER GRAVITY MAIN, TRENCHED, PVC, 8 INCH A. REFER TO SHEET C.06 FOR TABULATIONS. REFER TO MSS SHEETS FOR LOCATIONS. CONTRACTOR SHALL MANDREL TEST AND TELEWISE ALL SANITARY SEWERS AND TURN OVER DATA TO CITY UPON COMPLETION OF THE TESTING AND INSPECTION BEFORE SUBGRADE PREPARATION. DATA SUBMITTAL TO BE APPROVED BY ENGINEER. ANY VISIBLE LEAKS SHALL BE REPAIRED REGARDLESS OF SEVERITY. CONTRACTOR SHALL RE-VIDEO ANY REQUIRED REPAIRS AND PROVIDE VIDEO TO THE CITY AT NO ADDITIONAL COST. B. WHERE THE SEWER CROSSES OVER OR LESS THAN 18 INCHES BELOW A WATER MAIN, LOCATE ONE FULL LENGTH OF SEWER PIPE OF WATER MAIN MATERIAL SO BOTH JOINTS ARE AS FAR AS POSSIBLE FROM THE WATER MAIN. THE SEWER AND WATER PIPES MUST BE ADEQUATELY SUPPORTED AND HAVE WATERTIGHT JOINTS. USE A LOW PERMEABILITY SOIL FOR BACKFILL MATERIAL WITHIN 10 FEET OF THE POINT OF CROSSING. THIS WORK SHALL BE INCIDENTAL TO THE PRICE BID. C. PIPE EMBEDMENT DETAIL, TYPE F-3, MODIFIED TO REQUIRE ONLY 6" ABOVE THE TOP OF THE PIPE. FURNISHING AND PLACING ELBOWS AND TEES, PLUGS, CONNECTION TO EXISTING SANITARY SEWER AND BEDDING MATERIALS AS REQUIRED SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. CONNECTION TO EXISTING SANITARY PIPES SHALL BE INCIDENTAL TO THIS ITEM. D. CONTRACTOR SHALL PLUG SEWER AT THE END OF EACH WORKING DAY. DAMAGES RESULTING FROM THE CONTRACTOR'S INABILITY TO KEEP GROUND AND STORM WATER OUT OF THE SANITARY SYSTEM SHALL BE CHARGED TO THE CONTRACTOR.
20	4010-108-E-0	SANITARY SEWER SERVICE STUB, PVC, 6" A. REFER TO SHEET C.06 FOR TABULATION. REFER TO MSS SHEETS FOR LOCATIONS. SANITARY SERVICE PIPE SHALL BE CONNECTED TO THE EXISTING SERVICE PIPE AT THE RIGHT OF WAY. CONNECTION SHALL BE BY "FERNCO" STYLE RUBBER BOOT CONNECTORS FOR THE TYPES OF EXISTING PIPE. PIPE MATERIAL SHALL BE SDR 23.5 POLYVINYL CHLORIDE PIPE (PVC). FURNISHING AND PLACEMENT OF ELBOWS AND TEES, BEDDING, AND GRANULAR BACKFILL MATERIAL SHALL CONSIDERED INCIDENTAL TO THIS ITEM. ALL SERVICES SHALL BE WATER TIGHT AND CONNECTED TO THE SEWER MAIN WITH A PREFORMED WYE, USE OF SADDLE WYES WILL NOT BE ALLOWED. ALL VISIBLE LEAKS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL PROVIDE AS-CONSTRUCTED LOCATIONS OF ALL SERVICES.
21	4010-108-H-0	REMOVAL OF SANITARY SEWER, 12" AND LESS DIA. A. REFER TO SHEET R.01 FOR LOCATIONS. EXISTING PIPE TRENCH SHALL BE FILLED WITH GRANULAR MATERIAL AND PAID FOR UNDER "REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL" ITEM. ASSUMED TRENCH WIDTH IS PIPE DIAMETER PLUS TWO FEET AND FILLED TO BOTTOM OF SUBBASE.
22	4010-108-K-0	SANITARY SEWER ABANDONMENT, 8" DIA. A. REFER TO SHEET R.01 FOR LOCATIONS.
23	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 15 INCH A. REFER TO SHEET C.06 FOR TABULATIONS. REFER TO MSS SHEETS FOR LOCATIONS. CONTRACTOR SHALL MANDREL TEST AND TELEWISE ALL STORM SEWERS AND TURN OVER DATA TO CITY UPON COMPLETION OF THE TESTING AND INSPECTION AND PRIOR TO SUBGRADE PREPARATION. DATA SUBMITTAL TO BE APPROVED BY ENGINEER. B. BEDDING CLASS SHALL BE R-2 FOR ALL PIPES. TYPE OF PIPE ALLOWED SHALL BE RCP, CLASS III. THE JOINTS WILL BE WRAPPED WITH ENGINEERING FABRIC. ANY LOCATION WHERE THE STORM SEWER IS LOCATED WITHIN 18 INCHES VERTICALLY OR OVER A WATERMAIN THE STORM SEWER PIPE SHALL BE GASKETED WITH THE JOINTS LOCATED AS FAR FROM THE WATER MAIN AS POSSIBLE.

855 WRIGHT BROTHERS BLVD SW, SUITE 2A CEDAR RAPIDS, IOWA 52404 Phone: (319) 362-3219 Email: CedarRapids@bolton-menk.com www.bolton-menk.com	REV	ISSUED FOR	DATE	DESIGNED JGS	CITY OF MUSCATINE, IOWA 2ND & MULBERRY ROUNDABOUT ESTIMATE REFERENCE NOTES	SHEET C.02
				DRAWN JGS		
				CHECKED ALH		



BOLTON & MENK

© Bolton & Menk, Inc. 2018, All Rights Reserved
H:\MUSCATIN_CI_IA\G1115855\CAD\C3D\115855C01.dwg 11/26/2018 5:08 PM

23	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 15 INCH A. REFER TO SHEET C.06 FOR TABULATIONS. REFER TO MSS SHEETS FOR LOCATIONS. CONTRACTOR SHALL MANDREL TEST AND TELEWISE ALL STORM SEWERS AND TURN OVER DATA TO CITY UPON COMPLETION OF THE TESTING AND INSPECTION AND PRIOR TO SUBGRADE PREPARATION. DATA SUBMITTAL TO BE APPROVED BY ENGINEER. B. BEDDING CLASS SHALL BE R-2 FOR ALL PIPES. TYPE OF PIPE ALLOWED SHALL BE RCP, CLASS III. THE JOINTS WILL BE WRAPPED WITH ENGINEERING FABRIC. ANY LOCATION WHERE THE STORM SEWER IS LOCATED WITHIN 18 INCHES VERTICALLY OR OVER A WATERMAIN THE STORM SEWER PIPE SHALL BE GASKETED WITH THE JOINTS LOCATED AS FAR FROM THE WATER MAIN AS POSSIBLE.
24	4020-108-A-1	STORM SEWER, TRENCHED, RCP, 18 INCH A. REFER TO SHEET C.06 FOR TABULATIONS. REFER TO MSS SHEETS FOR LOCATIONS. CONTRACTOR SHALL MANDREL TEST AND TELEWISE ALL STORM SEWERS AND TURN OVER DATA TO CITY UPON COMPLETION OF THE TESTING AND INSPECTION AND PRIOR TO SUBGRADE PREPARATION. DATA SUBMITTAL TO BE APPROVED BY ENGINEER. B. BEDDING CLASS SHALL BE R-2 FOR ALL PIPES. TYPE OF PIPE ALLOWED SHALL BE RCP, CLASS III. THE JOINTS WILL BE WRAPPED WITH ENGINEERING FABRIC. ANY LOCATION WHERE THE STORM SEWER IS LOCATED WITHIN 18 INCHES VERTICALLY OR OVER A WATERMAIN THE STORM SEWER PIPE SHALL BE GASKETED WITH THE JOINTS LOCATED AS FAR FROM THE WATER MAIN AS POSSIBLE.
25	4020-108-C-0	REMOVAL OF STORM SEWER, LESS THAN 36 INCH A. REFER TO SHEET R.01 SHEETS FOR LOCATIONS. EXISTING PIPE TRENCH SHALL BE FILLED WITH GRANULAR MATERIAL AND PAID FOR UNDER "REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL" ITEM. TRENCH WIDTH SHALL BE PIPE DIAMETER PLUS TWO FEET AND FILLED TO BOTTOM OF SUBBASE.
26	4040-108-A-0	SUBDRAIN, HDPE, 6 INCH A. SEE TYPICAL ROADWAY SECTIONS IN B SHEETS FOR TYPICAL PLACEMENT. SEE D AND E SERIES SHEETS FOR OTHER LOCATIONS. B. SUBRAIN SHALL BE CASE B, TYPE 1. SUBDRAIN PIPE SHALL BE WRAPPED IN FILTER SOCK. NO ENGINEERING FABRIC IS REQUIRED AROUND THE TRENCH.
27	4040-108-C-0	SUBDRAIN CLEANOUT A. SEE D AND E SERIES SHEETS FOR LOCATIONS. B. SUBDRAIN CLEANOUT SHALL BE TYPE A1.
28	4040-108-D-0	SUBDRAIN OUTLETS AND CONNECTIONS A. SEE C SHEETS FOR TABULATIONS. B. OUTLET THROUGH STORM STRUCTURE WALLS SHALL BE COMPLETED USING CMP WITH RODENT GUARD.
29	5010-108-A-1	WATER MAIN, TRENCHED, FUSED HDPE, 12" A. REFER TO SHEETS M.01 THRU M.02 FOR LAYOUT. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES EXCAVATION, HAULING OFF EXCAVATED SOIL TO AN APPROVED LOCATION, INSTALLATION OF PIPE, FITTINGS, THRUST BLOCKS, AND APPURTENANCES, AND COMPACTION OF BACKFILL. PIPE WALL THICKNESS SHALL BE DR11. THIS ITEM SHALL BE INSTALLED IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS. B. MECHANICAL JOINT (MJ) CONNECTIONS TO VALVES SHALL BE MADE USING GF PIPING SYSTEMS MJ ADAPTERS WITH STAINLESS STEEL STIFFENER RINGS OR MPW ENGINEER APPROVED EQUAL. BOLTS AND NUTS SHALL BE CORTEN BLUE.
30	5010-108-A-1	WATER MAIN, TRENCHED, FUSED HDPE, 10" A. REFER TO SHEETS M.01 THRU M.02 FOR LAYOUT. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES EXCAVATION, HAULING OFF EXCAVATED SOIL TO AN APPROVED LOCATION, INSTALLATION OF PIPE, FITTINGS, THRUST BLOCKS, AND APPURTENANCES, AND COMPACTION OF BACKFILL. PIPE WALL THICKNESS SHALL BE DR11. THIS ITEM SHALL BE INSTALLED IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS. B. MECHANICAL JOINT (MJ) CONNECTIONS TO VALVES SHALL BE MADE USING GF PIPING SYSTEMS MJ ADAPTERS WITH STAINLESS STEEL STIFFENER RINGS OR MPW ENGINEER APPROVED EQUAL. BOLTS AND NUTS SHALL BE CORTEN BLUE.
31	5010-108-A-1	WATER MAIN, TRENCHED, FUSED HDPE, 6" A. REFER TO SHEETS M.01 THRU M.02 FOR LAYOUT. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES EXCAVATION, HAULING OFF EXCAVATED SOIL TO AN APPROVED LOCATION, INSTALLATION OF PIPE, FITTINGS, THRUST BLOCKS, AND APPURTENANCES, AND COMPACTION OF BACKFILL. PIPE WALL THICKNESS SHALL BE DR11. THIS ITEM SHALL BE INSTALLED IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS. B. MECHANICAL JOINT (MJ) CONNECTIONS TO VALVES SHALL BE MADE USING GF PIPING SYSTEMS MJ ADAPTERS WITH STAINLESS STEEL STIFFENER RINGS OR MPW ENGINEER APPROVED EQUAL. BOLTS AND NUTS SHALL BE CORTEN BLUE.
32	5010-108-C-1	CUT AND CAP, 10" A. REFER TO SHEETS M.01 THRU M.02 FOR LAYOUT. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES PIPE CUTTING, REMOVAL AND DISPOSAL OF PIPE, DISPOSAL OF TRENCH WATER, AND THRUST RESTRAINT (FOR CAPS AND PLUGS SUBJECT TO PRESSURE). MEASUREMENT AND PAYMENT SHALL BE BASED ON EACH TYPE AND SIZE OF COUPLING, CAP, OR PLUG INSTALLED AS SPECIFIED IN THE CONTRACT DOCUMENTS OR AS REQUIRED FOR PROPER INSTALLATION OF THE WATERMAIN. B. THE CONTRACTOR SHALL CONFIRM OUTSIDE DIAMETER FOR CAPS (WATERMAIN IN THIS AREA MAY BE CAST IRON SIZE PIPE). C. THE LENGTH OF CUT AND CAP TIME SHALL BE KEPT TO A MINIMUM. MAXIMUM OUTAGE TIME FRAME IS 4 HOURS. COORDINATE THE CUT AND CAP AND OUTAGE WITH MP&W, MINIMUM OF THREE DAYS NOTICE TO NOTIFY CUSTOMERS.
33	5010-108-C-1	CUT AND CAP, 12" A. REFER TO SHEETS M.01 THRU M.02 FOR LAYOUT. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES PIPE CUTTING, REMOVAL AND DISPOSAL OF PIPE, DISPOSAL OF TRENCH WATER, AND THRUST RESTRAINT (FOR CAPS AND PLUGS SUBJECT TO PRESSURE). MEASUREMENT AND PAYMENT SHALL BE BASED ON EACH TYPE AND SIZE OF COUPLING, CAP, OR PLUG INSTALLED AS SPECIFIED IN THE CONTRACT DOCUMENTS OR AS REQUIRED FOR PROPER INSTALLATION OF THE WATERMAIN. B. THE CONTRACTOR SHALL CONFIRM OUTSIDE DIAMETER FOR CAPS (WATERMAIN IN THIS AREA MAY BE CAST IRON SIZE PIPE). C. THE LENGTH OF CUT AND CAP TIME SHALL BE KEPT TO A MINIMUM. MAXIMUM OUTAGE TIME FRAME IS 4 HOURS. COORDINATE THE CUT AND CAP AND OUTAGE WITH MP&W, MINIMUM OF THREE DAYS NOTICE TO NOTIFY CUSTOMERS.
34	5010-108-D-0	WATER SERVICE STUB, COPPER, 1-INCH A. REFER TO SHEETS M.01 THRU M.02 FOR LAYOUT. THIS ITEM IS FOR THE WATER SERVICE TO THE CENTER ROUNDABOUT ISLAND AND INCLUDES THE INSTALLATION OF COPPER PIPE, CURB STOP, AND APPURTENANCES IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS FOR A COMPLETE CONNECTION OF THE SERVICE TO THE WATER MAIN.
35	5020-108-B-0	TAPPING SLEEVE AND VALVE, 12"x12" A. REFER TO SHEETS M.01 THRU M.03 FOR LAYOUT AND DETAIL. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM SHALL BE INSTALLED IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS. MEASUREMENT AND PAYMENT SHALL INCLUDE THE TAPPING SLEEVE, TAPPING VALVE, THRUST BLOCKS, EXCAVATION, GRANULAR BACKFILL, AND COMPACTION. CONTRACTOR SHALL MAKE ALL TAPS TO EXISTING MAINS USING APPROVED TAPPING EQUIPMENT FOR WATER MAIN INSTALLATION, APPROVAL SHALL BE PROVIDED BY MPW.
36	5020-108-B-0	TAPPING SLEEVE AND VALVE, 10"x10" A. REFER TO SHEETS M.01 THRU M.03 FOR LAYOUT AND DETAIL. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM SHALL BE INSTALLED IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS. MEASUREMENT AND PAYMENT SHALL INCLUDE THE TAPPING SLEEVE, TAPPING VALVE, THRUST BLOCKS, EXCAVATION, GRANULAR BACKFILL, AND COMPACTION. CONTRACTOR SHALL MAKE ALL TAPS TO EXISTING MAINS USING APPROVED TAPPING EQUIPMENT FOR WATER MAIN INSTALLATION, APPROVAL SHALL BE PROVIDED BY MPW.

37	5020-108-C-0	HYDRANT, ASSEMBLY A. REFER TO SHEETS M.01 THRU M.02 FOR LAYOUT. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM SHALL BE INSTALLED IN ACCORDANCE WITH MUSCATINE POWER AND WATER'S STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS.
38	6010-108-A-0	MANHOLE TYPE SW-301, 60 INCH A. REFER TO SHEET C.06 FOR TABULATIONS. REFER TO MSS SHEETS FOR LOCATIONS. B. ANY VISIBLE LEAKS SHALL BE REPAIRED. MANHOLE CASTINGS SHALL READ "SANITARY SEWER" AND BE AN EAST JORDAN 1045 WITH CONCEALED PICK HOLES OR APPROVED EQUAL. SANITARY MANHOLE SHALL HAVE INTERNAL CHIMNEY SEAL.
39	6010-108-A-0	MANHOLE TYPE SW-401, 60 INCH A. REFER TO SHEET C.06 FOR TABULATIONS. REFER TO MSS SHEETS FOR LOCATIONS. B. MANHOLE CASTINGS SHALL READ "STORM SEWER" AND BE AN EAST JORDAN 1045 WITH CONCEALED PICK HOLES
40	6010-108-B-0	INTAKE TYPE SW-501 A. REFER TO SHEET C.06 FOR TABULATIONS. REFER TO MSS SHEETS FOR LOCATIONS. CASTING SHALL READ " NO DUMP, DRAINS TO WATERWAY".
41	6010-108-B-0	INTAKE TYPE SW-503 A. REFER TO SHEET C.06 FOR TABULATIONS. REFER TO MSS SHEETS FOR LOCATIONS. CASTING SHALL READ " NO DUMP, DRAINS TO WATERWAY".
42	6010-108-F-0	MANHOLE ADJUSTMENT, MAJOR A. REFER TO MSS SHEETS FOR LOCATION. B. THIS BID ITEM SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO ADJUST CASTINGS TO FINISHED GRADE. ITEM SHALL INCLUDE REMOVING THE EXISTING CASTING, REPLACING CONCRETE ADJUSTING RINGS TO PROPER ELEVATION, INSTALLATION OF EXISTING CASTING AND INSTALLATION OF NEW INTERNAL CHIMNEY SEAL ON SANITARY SEWER MANHOLES.
43	6010-108-H-0	REMOVE MANHOLE A. REFER TO R SHEETS FOR LOCATIONS. REMOVED STRUCTURE SHALL BECOME PROPERTY OF THE CONTRACTOR AND PROPERLY DISPOSED OF. CASTING SHALL BECOME PROPERTY OF THE CITY AND DELIEVERED TO THE CITY YARD.
44	6010-108-H-0	REMOVE INTAKE A. REFER TO R SHEETS FOR LOCATIONS. REMOVED STRUCTURE SHALL BECOME PROPERTY OF THE CONTRACTOR AND PROPERLY DISPOSED OF. CASTING SHALL BECOME PROPERTY OF THE CITY AND DELIEVERED TO THE CITY YARD.
45	7010-108-A-0	PAVEMENT, PCC, 10 INCH A. REFER TO SHEET C.08 TABULATION. REFER TO B SHEETS FOR TYPICAL PAVEMENT SECTIONS. REFER TO D AND E SHEETS FOR LAYOUT. REFER TO L SHEETS FOR JOINT SPACING. ALL JOINTS SHALL BE CUT TO A DEPTH OF T/3 AND SEALED. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS. REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. LOW AIR TOLERANCE LIMIT PER 7010-3.08-B SHALL BE 6%. BUMP CART SHALL BE USED FOR PAVMENET SMOOTHNESS EVALUATION AND SURFACE CORRECTIONS SHALL BE MADE IN ACCORDANCE WITH 7010-3.07-C. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, CRACK ROUTING AND SEALING IS ACCEPTABLE. C. THIS ITEM SHALL INCLUDE QUANTITIES FOR CURB GUTTER SECTIONS CONNECTED TO THE PAVEMENT.
46	7010-108-A-0	PAVEMENT, PCC, 10 INCH, COLORED A. REFER TO SHEETS C.08 FOR TABULATION. REFER TO B SHEETS FOR TYPICAL PAVEMENT SECTIONS. REFER TO D SHEETS FOR LAYOUT. REFER TO L SHEETS FOR JOINT SPACING. ALL JOINTS SHALL BE CUT TO A DEPTH OF T/3 AND SEALED. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS. REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. LOW AIR TOLERANCE LIMIT PER 7010-3.08-B SHALL BE 6%. BUMP CART SHALL BE USED FOR PAVMENET SMOOTHNESS EVALUATION AND SURFACE CORRECTIONS SHALL BE MADE IN ACCORDANCE WITH 7010-3.07-C. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, CRACK ROUTING AND SEALING IS ACCEPTABLE. C. THIS ITEM SHALL INCLUDE QUANTITIES FOR CURB AND GUTTER SECTIONS CONNECTED TO THE PAVEMENT.
47	7010-108-E-0	CURB AND GUTTER, 36 INCH, 10 INCH THICK A. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS. REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. LOW AIR TOLERANCE LIMIT PER 7010-3.08-B SHALL BE 6%. BUMP CART OR STRAIGHTEDGE SHALL BE USED FOR PAVMENET SMOOTHNESS REQUIREMENT AND SURFACE CORRECTIONS SHALL BE MADE IN ACCORDANCE WITH 7010-3.07-C. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, CRACK ROUTING AND SEALING IS ACCEPTABLE.
48	7010-108-F-0	BEAM CURB A. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS. REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. LOW AIR TOLERANCE LIMIT PER 7010-3.08-B SHALL BE 6%. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, CRACK ROUTING AND SEALING IS ACCEPTABLE. B. VARIATION IN DEPTH OF BEAM CURB SHALL BE INCIDENTAL TO THIS ITEM. THIS ITEM SHALL COVER THE BEAM CURB AT THE BACK OF SIDEWALK ON THE SOUTH SIDE OF 2ND STREET AT THE EAST END OF THE PROJECT.
49	7010-108-I-0	PCC PAVEMENT SAMPLES AND TESTING A. THIS ITEM SHALL BE MEASURED AND PAID IN ACCORDANCE WITH SECTION 7010, 1.08 I. THICKNESS AND SMOOTHNESS INCENTIVES ARE NOT IN EFFECT FOR THIS PROJECT.
50	7020-108-B-0	HMA PAVEMENT, 8 INCH A. INCLUDES ALL EQUIPMENT AND MATERIALS NECESSARY TO PLACE HMA BASE, LEVELING, AND SURFACE LAYERS AS SHOWN IN TYPICAL ROADWAY SECTION IN B SERIES SHEETS. SEE D.02 FOR PLAN AND PROFILE. CONTRACTOR SHALL PROVIDE QUALITY CONTROL ACCORDING TO SECTION 7020, 3.06, B (SMALL QUANTITIES). PLANT REPORTING SHALL BE REQUIRED.
51	7030-108-A-0	REMOVAL OF SIDEWALK A. REFER TO R SHEETS FOR LOCATIONS. B. ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, MODIFIED SUBBASE AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED, REGARDLESS OF THICKNESS.



**BOLTON
& MENK**

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED JGS
			DRAWN JGS
			CHECKED ALH

CITY OF MUSCATINE, IOWA

2ND & MULBERRY ROUNDABOUT

ESTIMATE REFERENCE NOTES

SHEET

C.03

52	7030-108-A-0	REMOVAL OF DRIVEWAY A. REFER TO R SHEETS FOR LOCATIONS. B. ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, MODIFIED SUBBASE AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED, REGARDLESS OF THICKNESS.
53	7030-108-E-0	SIDEWALK, PCC, 5 IN. A. REFER TO C SHEET FOR QUANTITY TAB. REFER TO B SHEETS FOR TYPICAL PAVEMENT SECTIONS. REFER TO F SHEETS FOR LAYOUT AND T SHEETS FOR JOINTING. ITEMS INCLUDES SCORING, DECORATIVE JOINTING AND REINFORCEMENT AS SHOWN ON THE T SHEETS AND DETAILED IN THE U SHEETS. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, CRACK ROUTING AND SEALING IS ACCEPTABLE. C. THICKENED EDGES SHALL BE INCIDENTAL TO THIS ITEM AND NO ADDITIONAL PAYMENT SHALL BE MADE.
54	7030-108-E-0	SIDEWALK, PCC, 10 IN. (RAMP) A. REFER TO S SERIES SHEETS FOR SIDEWALK RAMP LAYOUT AND TABULATIONS. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, CRACK ROUTING AND SEALING IS ACCEPTABLE. C. THICKENED EDGES SHALL BE INCIDENTAL TO THIS ITEM AND NO ADDITIONAL PAYMENT SHALL BE MADE.
55	7030-108-E-0	CONCRETE MEDIAN, APRONS, BANDING, PCC, 10 IN. A. ITEM IS FOR CONCRETE APRONS, MEDIAN INFILL, AND DECORATIVE BANDS. REFER TO B SHEETS FOR TYPICAL PAVEMENT SECTIONS. REFER TO T SHEETS FOR LAYOUT AND JOINTING. ITEM INCLUDES SCORING, DECORATIVE JOINTING AND REINFORCEMENT AS SHOWN ON THE T SHEETS AND DETAILED IN THE U SHEETS. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, CRACK ROUTING AND SEALING IS ACCEPTABLE. C. THICKENED EDGES SHALL BE INCIDENTAL TO THIS ITEM AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR THICKENED EDGES.
56	7030-108-F-1	CONCRETE UNIT PAVERS TYPE B & C WITH SAND SETTING BED & PCC SUBBASE A. THIS ITEM INCLUDES PAVER TYPES B & C, POLYMERIC SAND FOR JOINTS, SAND SETTING BED, GEOTEXTILE FABRIC, 4 INCH THICK CONCRETE BASE, REBAR, AND AGGREGATE SUBBASE. B. REFER TO T SHEETS FOR TYPE, LOCATION AND PATTERN. SEE NOTES AND DETAILS ON U SHEETS REGARDING INSTALLATION AND INCIDENTAL ITEMS. THICKENED EDGES SHALL BE INCIDENTAL TO THIS ITEM AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR THICKENED EDGES. C. SEE SPECIAL PROVISION FOR ADDITIONAL INFORMATION.
57	7030-108-F-2	HISTORIC PAVERS, TYPE A WITH SAND SETTING BED & PCC SUBBASE (HISTORIC PAVERS FURNISHED BY CITY) A. THIS ITEM INCLUDES POLYMERIC SAND FOR JOINTS, SAND SETTING BED, GEOTEXTILE FABRIC, 4 INCH THICK CONCRETE BASE, REBAR, AND AGGREGATE SUBBASE. HISTORIC PAVERS TO BE FURNISHED BY OWNER. B. REFER TO T SHEETS FOR TYPE, LOCATION AND PATTERN. SEE NOTES AND DETAILS ON U SHEETS REGARDING INSTALLATION AND INCIDENTAL ITEMS. THICKENED EDGES SHALL BE INCIDENTAL TO THIS ITEM AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR THICKENED EDGES. C. REFER TO T SHEETS FOR TYPE, LOCATION AND PATTERN. SEE NOTES AND DETAILS ON U SHEETS REGARDING INSTALLATION AND INCIDENTAL ITEMS.
58	7030-108-F-3	CROSSWALK PAVERS WITH 3/4" ASPHALT SETTING BED A. THIS ITEM INCLUDES THE 8 CM THICK CONCRETE UNIT PAVER, POLYMERIC SAND FOR JOINTS, BITUMINOUS SETTING BED, NEOPRENE MASTIC, 6 INCH THICK CONCRETE BASE, AND REBAR. B. REFER TO T SHEETS FOR TYPE, LOCATION AND PATTERN. SEE NOTES AND DETAILS ON U SHEETS REGARDING INSTALLATION AND INCIDENTAL ITEMS. C. SEE SPECIAL PROVISION FOR ADDITIONAL INFORMATION.
59	7030-108-G-0	DETECTABLE WARNING A. DETECTABLE WARNING SYSTEMS SHALL BE NEENAH DETECTABLE WARNING PLATES, MODEL 4984-36B OR APPROVED EQUAL. CONTRACTOR SHALL VERIFY TYPE WITH ENGINEER AND CITY PRIOR TO ORDERING MATERIALS.
60	7030-108-H-1	DRIVEWAY, PAVED, PCC, 7 INCH A. REFER TO SHEET C.08 FOR TABULATION. REFER TO F SHEETS FOR LAYOUT. ITEMS INCLUDES SCORING, DECORATIVE JOINTING AND REINFORCEMENT. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, CRACK ROUTING AND SEALING IS ACCEPTABLE.
61	7030-108-H-1	DRIVEWAY, PAVED, PCC, 10 INCH A. ITEM IS FOR TRUCK ALTERNATE DRIVEWAY. REFER TO SHEET E.02 FOR LAYOUT. B. ALL CONCRETE SHALL BE CLASS C AND MEET MINIMUM FLEXURAL STRENGTH REQUIREMENT OF 550 PSI AT 28 DAYS. AREAS NOT MEETING THIS REQUIREMENT SHALL BE SUBJECT TO REPAIRS, REPLACEMENT OR REDUCED PAYMENT AS DETERMINED BY THE ENGINEER AND TEST RESULTS WILL REPRESENT ALL CONCRETE PLACED IN THE SAME LOT. COLD WEATHER CONCRETE WILL BE CONSIDERED INCIDENTAL IF REQUIRED. CRACKED PANELS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE UNLESS, IN THE JUDGEMENT OF THE ENGINEER, CRACK ROUTING AND SEALING IS ACCEPTABLE.

62	7040-108-H-0	PAVEMENT REMOVAL A. THE THICKNESS OF THE EXISTING PAVEMENT IS VARIABLE. SEE BORING LOGS FOR PAVEMENT THICKNESS. PAVEMENT TYPE VARIES FROM PCC TO HMA TO A MIXTURE OF PCC AND HMA. UNIT PRICE SHALL BE FULL COMPENSATION FOR REMOVAL OF PAVEMENT REGARDLESS OF THICKNESS, TYPE, AND REINFORCING. SEE R SHEETS FOR REMOVAL LIMITS AND BORING LOGS.
63	8020-108-B-0	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE A. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PART 3. PAVEMENT SHALL BE CLEAN AND FREE OF ALL DEBRIS AND CURE PRIOR TO PAINTING. METHOD OF CLEANING SHALL BE BY HIGH PRESSURE WATER BLASTING. ITEM INCLUDES ENOUGH QUANTITY TO PAINT THE PROJECT TWICE. ONCE AT THE COMPLETION OF EACH PHASE AND ONCE AT THE END OF THE PROJECT. SEE N SHEETS FOR LAYOUT AND TABULATION.
64	9010-108-B-0	SEEDING, FERTILIZING & HYDROMULCHING A. SEED, FERTILIZE, AND MULCH ALL AREAS WHERE INDICATED ON PLANS. SEEDING SHALL BE TYPE 1. B. THIS ITEM INCLUDES REMOVAL OF ROCK AND OTHER DEBRIS, REPAIRING RILLS AND WASHES, SEEDBED PREPARATION, FURNISHING AND PLACEMENT OF SEED, FURNISHING, PLACEMENT, AND INCORPORATING FERTILIZER AND MULCH, FURNISHING WATER AND OTHER CARE, AND ANY RESEEDING NECESSARY UNTIL FINAL ACCEPTANCE. THE CONTRACTOR IS RESPONSIBLE FOR MOWING AND MAINTAINING SEEDED AREAS UNTIL THE PROJECT IS ACCEPTED BY THE OWNER. SEEDING OF AREAS DISTURBED OUTSIDE OF THE CONSTRUCTION LIMITS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. SEE SHEET T.01 FOR SEEDING NOTES. MULCH SHALL BE BONDED FIBER MATRIX (BFM)
65	9020-108-A-0	SOD A. SOD ALL AREAS DISTURBED BY CONSTRUCTION UNLESS INDICATED ON PLANS. COST FOR WATERING SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. ROCK PICKING, FINISH GRADING, AND REWORK, INCLUDING REGRADING AND ADJUSTING GRADING, ARE CONSIDERED INCIDENTAL TO THIS ITEM. CONTRACTOR RESPONSIBLE FOR PROTECTING ALL SODDED AREAS THROUGH ESTABLISHMENT AND ACCEPTANCE. CONTRACTOR RESPONSIBLE FOR MOWING AND MAINTAINING SODDED AREAS UNTIL PROJECT IS ACCEPTED BY OWNER. SODDING OF DISTURBED AREAS OUTSIDE OF CONSTRUCTION LIMITS SHALL BE RESPONSIBILITY OF CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
66	9030-108-B-0	DECIDUOUS SHRUBS A. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL DECIDUOUS SHRUBS IN ACCORDANCE WITH SUDAS SECTION 9030 AND AMENDED AS FOLLOWS: PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE FOR ALL PLANTINGS IN THE PROJECT. ACCEPTANCE OF PLANT MATERIALS CONSTRUES FULL PAYMENT (MINUS ANY PROJECT RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, AMENDED SOILS DELIVERY, EXCAVATION, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS. AMENDED PLANTING SOIL IS CONSIDERED INCIDENTAL TO THIS ITEM. SEE T SHEETS FOR LOCATIONS AND PLANT LIST.
67	9030-108-B-0	ORNAMENTAL TREE A. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL ORNAMENTAL TREE IN ACCORDANCE WITH SUDAS SECTION 9030 AND AMENDED AS FOLLOWS: PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE FOR ALL PLANTINGS IN THE PROJECT. ACCEPTANCE OF PLANT MATERIALS CONSTRUES FULL PAYMENT (MINUS ANY PROJECT RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, AMENDED SOILS DELIVERY, EXCAVATION, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS. AMENDED PLANTING SOIL IS CONSIDERED INCIDENTAL TO THIS ITEM. SEE T SHEETS FOR LOCATIONS AND PLANT LIST.
68	9030-108-B-0	PERENNIAL GROUND COVER (1 GAL) A. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL PERENNIAL GROUND COVER (1 GAL) IN ACCORDANCE WITH SUDAS SECTION 9030 AND AMENDED AS FOLLOWS: PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE FOR ALL PLANTINGS IN THE PROJECT. ACCEPTANCE OF PLANT MATERIALS CONSTRUES FULL PAYMENT (MINUS ANY PROJECT RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, AMENDED SOILS DELIVERY, EXCAVATION, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS. AMENDED PLANTING SOIL IS CONSIDERED INCIDENTAL TO THIS ITEM. SEE T SHEETS FOR LOCATIONS AND PLANT LIST.
69	9030-108-B-0	DECIDUOUS TREE A. THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL DECIDUOUS TREE IN ACCORDANCE WITH SUDAS SECTION 9030 AND AMENDED AS FOLLOWS: PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE FOR ALL PLANTINGS IN THE PROJECT. ACCEPTANCE OF PLANT MATERIALS CONSTRUES FULL PAYMENT (MINUS ANY PROJECT RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, AMENDED SOILS DELIVERY, EXCAVATION, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS. AMENDED PLANTING SOIL IS CONSIDERED INCIDENTAL TO THIS ITEM. SEE T SHEETS FOR LOCATIONS AND PLANT LIST.
70	9040-108-A-2	SWPPP MANAGEMENT A. INSPECTIONS WILL MEET THE REQUIREMENTS AS SET FORTH IN THE NPDES GENERAL PERMIT NO. 2 AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN COPIES OF THE SWPPP PLAN AND ALL INSPECTION REPORTS AND SHALL BE RESPONSIBLE FOR ALL INSPECTIONS UNTIL THE NOTICE OF DISCONTINUATION. WEEKLY INSPECTIONS SHALL BE REQUIRED AND ALL REPORTS COPIED TO THE CITY.
71	9040-108-D-1	FILTER SOCKS, 12 INCH A. QUANTITY IS AN ASSUMED AMOUNT NEEDED FOR EROSION CONTROL. QUANTITY SHALL BE FIELD MEASURED FOR FINAL PAYMENT. ITEM INCLUDES INSTALLATION, MAINTENANCE AND REMOVAL OF FILTER SOCKS.
72	9040-108-N-1	SILT FENCE OR SILT FENCE DITCH CHECK A. ITEM IS AN ASSUMED AMOUNT NEEDED FOR EROSION CONTROL. QUANTITY SHALL BE FIELD MEASURED FOR FINAL PAYMENT. ITEM INCLUDES INSTALLATION, MAINTENANCE AND REMOVAL OF SILT FENCE.
73	9040-108-T-1	INLET PROTECTION DEVICE, DROP IN PROTECTION A. ALL DEVICES SHALL BE DROP IN STYLE AS PER SUDAS 9040-2.18-A. ADDITIONAL QUANTITY, IF REQUIRED, SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. REMOVAL OF INLET PROTECTION DEVICE SHALL BE CONSIDERED INCIDENTAL. SILT TRAPPED IN THE DEVICE SHALL BE REMOVED AND DISPOSED OF AT NO ADDITIONAL COST.
74	11,010-108-A	CONSTRUCTION SURVEY A. THIS ITEM IS FOR ALL SURVEY WORK NECESSARY FOR CONSTRUCTION OF THIS PROJECT AS DETAILED ON THE CONSTRUCTION DOCUMENTS AND APPROVED REVISIONS. ELECTRONIC DRAWING ARE AVAILABLE FOR THE CONTRACTORS USE.
75	11,020-108-A	MOBILIZATION A. THIS ITEM IS FOR ALL PREPARATORY WORK AND COSTS INCURRED BEFORE BEGINNING THE WORK ON THE PROJECT AND DURING THE PROJECT. THIS ITEM SHALL ALSO INCLUDE THE COSTS FOR ANY STAGED CONSTRUCTION AND EQUIPMENT SET UP TO COMPLETE THE WORK. THIS ITEM TO BE PAID PER SUDAS 11,020, 1.08A.
76	11,050-108-A	CONCRETE WASHOUT A. THIS PAY ITEM INCLUDES FURNISHING AND THE PERIODIC CLEAN OUT AND MAINTENANCE OF THE WASHOUT AREA AS DIRECTED BY THE ENGINEER. CONCRETE WASHOUT SHALL BE NOTED IN THE SWPPP.
77	12010-XXX-X-1	LIMESTONE EDGER A. THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL LIMESTONE EDGER. SEE T SHEETS FOR LOCATIONS AND U SHEETS FOR DETAILS. ITEM SHALL BE FIELD MEASURED FOR PAYMENT ON A LINEAR FOOT BASIS. B. SEE SUPPLEMENTAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.



**BOLTON
& MENK**

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED JGS
			DRAWN JGS
			CHECKED ALH

CITY OF MUSCATINE, IOWA

2ND & MULBERRY ROUNDABOUT

ESTIMATE REFERENCE NOTES

SHEET

C.04

78	12010-XXX-X-2	BOULDER SEATWALLS A. THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL BOULDER SEATWALLS. SEE T SHEETS FOR LOCATIONS AND U SHEETS FOR DETAILS. ITEM SHALL BE FIELD MEASURED FOR PAYMENT PER LINEAR FOOT ALONG THE FRONT FACE OF INSTALLED SEATWALL. B. SEE SUPPLEMENTAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
79	12,020-XXX-X-1	DUCT BANK, 3x2 CONFIGURATION A. REFER TO SHEETS M.11 THRU M.13 FOR LAYOUT AND DETAILS. REFER TO SHEET C.09 FOR TABULATION. COHESIVE BACKFILL MATERIAL SHALL BE USED AS SUITABLE BACKFILL MATERIAL TO FILL IN TRENCH. THIS ITEM SHALL INCLUDE EXCAVATION, COMPACTION, CONSTRUCTION OF DUCT BANK, COLORED CONCRETE, AND MAGNETIC MARKING TAPE AND COPPER WIRE PER DETAIL 1 ON SHEET M.13. FINAL ACCEPTANCE OF DUCT BANK SHALL BE AFTER THE COMPLETION OF A SUCCESSFUL MANDREL TEST. CONTRACTOR SHALL INCLUDE 'USE TAX' ON MATERIAL AND ANY COST ASSOCIATED WITH THIS MATERIAL (I.E. ADHESIVE, CAPS, ETC.) IN THE UNIT BID COST. NO 'USE TAX' IS REQUIRED ON LABOR. B. THE MATERIAL SHALL BE 6-INCH SCHEDULE 40 PVC. IN EACH CONDUIT INSTALL 1/2 INCH POLYESTER PULLING TAPE WITH A MINIMUM BREAKING STRENGTH OF 1,000 LB AND MEASUREMENT MARKINGS. CONDUIT SHALL BE CONSTRUCTED USING STANDARD DUCT SPACERS EVERY 6-1/2' TO 7' TO MAINTAIN A MINIMUM 2" SEPARATION BETWEEN DUCTS. BOTH ENDS OF CONDUIT SHALL BE SEALED. METHOD OF MEASUREMENT IS FROM EDGE OF STRUCTURE TO EDGE OF STRUCTURE.
80	12,030-XXX-X-1	ELECTRICAL CONDUIT, OPEN CUT, HDPE OR PVC, 6-INCH A. REFER TO SHEETS M.11 THRU M.13 FOR LAYOUT AND DETAILS. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES MATERIAL AND INSTALLATION OF ALL ELECTRICAL CONDUIT MATERIALS INCLUDING SWEEPS INTO ELECTRICAL INFRASTRUCTURE. THIS ITEM INCLUDES TRENCHING, BACKFILL, AND COMPACTION. THE MATERIAL SHALL BE 6-INCH HDPE, SDR 17, BLACK WITH A RED STRIPE OR SCHEDULE 40 PVC. IN EACH CONDUIT INSTALL 1/2 INCH MULE TAPE WITH A MINIMUM BREAKING STRENGTH OF 1,000 LB. BOTH ENDS OF CONDUIT SHALL BE SEALED. METHOD OF MEASUREMENT IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. CONDUIT INSTALLATION ACCEPTANCE VIA SUCCESSFUL MANDRAL TESTING BY CONTRACTOR. CONTRACTOR SHALL INCLUDE 'USE TAX' ON MATERIAL AND ANY COST ASSOCIATED WITH THIS MATERIAL (I.E. ADHESIVE, CAPS, ETC.) IN THE UNIT BID COST. NO 'USE TAX' IS REQUIRED ON LABOR.
81	12,030-XXX-X-2	ELECTRICAL CONDUIT, OPEN CUT, HDPE OR PVC, 2-INCH A. REFER TO SHEETS M.11 THRU M.13 FOR LAYOUT AND DETAILS. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES MATERIAL AND INSTALLATION OF ALL ELECTRICAL CONDUIT MATERIALS INCLUDING SWEEPS INTO ELECTRICAL INFRASTRUCTURE. THIS ITEM INCLUDES TRENCHING, BACKFILL, AND COMPACTION. THE MATERIAL SHALL BE 2-INCH HDPE, SDR 13.5, BLACK WITH A RED STRIPE OR SCHEDULE 40 PVC. IN EACH CONDUIT INSTALL 1/2 INCH MULE TAPE WITH A MINIMUM BREAKING STRENGTH OF 1,000 LB. BOTH ENDS OF CONDUIT SHALL BE SEALED. METHOD OF MEASUREMENT IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. CONDUIT INSTALLATION ACCEPTANCE VIA SUCCESSFUL MANDRAL TESTING BY CONTRACTOR. CONTRACTOR SHALL INCLUDE 'USE TAX' ON MATERIAL AND ANY COST ASSOCIATED WITH THIS MATERIAL (I.E. ADHESIVE, CAPS, ETC.) IN THE UNIT BID COST. NO 'USE TAX' IS REQUIRED ON LABOR.
82	12,030-XXX-X-3	JUNCTION BOX, ELECTRICAL, 13"x24" A. REFER TO SHEETS M.11 THRU M.13 FOR LAYOUT AND DETAILS. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES EXCAVATION, GRANULAR BASE, SUITABLE BACKFILL, AND COMPACTION. FURNISH AND INSTALL JUNCTION BOX AND LID. CONTRACTOR SHALL INCLUDE 'USE TAX' ON MATERIAL IN THE UNIT BID COST. NO 'USE TAX' IS REQUIRED ON LABOR.
83	12,030-XXX-X-4	JUNCTION BOX, ELECTRICAL, 10" DIAMETER A. REFER TO SHEETS M.11 THRU M.13 FOR LAYOUT AND DETAILS. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES EXCAVATION, GRANULAR BASE, SUITABLE BACKFILL, AND COMPACTION. FURNISH AND INSTALL JUNCTION BOX AND LID. CONTRACTOR SHALL INCLUDE 'USE TAX' ON MATERIAL IN THE UNIT BID COST. NO 'USE TAX' IS REQUIRED ON LABOR.
84	12,030-XXX-X-5	FOUNDATION, STREET LIGHT A. REFER TO SHEETS M.11 THRU M.13 FOR LAYOUT AND DETAILS. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM SHALL INCLUDE EXCAVATION FOR FOUNDATION, CONSTRUCTION FORMS, INSTALLATION OF CONDUIT FROM FOUNDATION TO JUNCTION, 10"x15" JUNCTION BOX, CONCRETE, GRANULAR BACKFILL AND COMPACTION. CONTRACTOR SHALL INCLUDE 'USE TAX' ON MATERIAL IN THE UNIT BID COST. NO 'USE TAX' IS REQUIRED ON LABOR.
85	12,040-XXX-X-1	COMMUNICATION CONDUIT, OPEN CUT, HDPE, QUAD DUCT (4x1.5-INCH) A. REFER TO SHEETS M.11 THRU M.13 FOR LAYOUT AND DETAILS. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES MATERIAL AND INSTALLATION OF ALL ELECTRICAL CONDUIT MATERIALS INCLUDING SWEEPS INTO ELECTRICAL INFRASTRUCTURE. THIS ITEM INCLUDES TRENCHING, BACKFILL, AND COMPACTION. THE MATERIAL SHALL BE FOUR (4) 1.50-INCH HDPE, SDR 15.5, COLORS: WHITE, PURPLE, BLACK, ORANGE, WITH PULL STRING. BOTH ENDS OF CONDUIT SHALL BE SEALED. METHOD OF MEASUREMENT IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. CONTRACTOR SHALL INCLUDE 'USE TAX' ON MATERIAL AND ANY COST ASSOCIATED WITH THIS MATERIAL (I.E. ADHESIVE, CAPS, ETC.) IN THE UNIT BID COST. NO 'USE TAX' IS REQUIRED ON LABOR.
86	12,040-XXX-X-2	HAND HOLE, COMMUNICATIONS, 30"x48" A. REFER TO SHEETS M.11 THRU M.13 FOR LAYOUT AND DETAILS. REFER TO SHEET C.09 FOR TABULATION. THIS ITEM INCLUDES EXCAVATION, GRANULAR BASE, COMPACTION, FURNISHING AND INSTALLATION OF HAND HOLE BOX AND LID, AND BACKFILL. CONTRACTOR SHALL INCLUDE 'USE TAX' ON MATERIAL IN THE UNIT BID COST. NO 'USE TAX' IS REQUIRED ON LABOR.



855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED
			JGS
			DRAWN
			JGS
			CHECKED
			ALH

CITY OF MUSCATINE, IOWA	SHEET C.05
2ND & MULBERRY ROUNDABOUT	
ESTIMATE REFERENCE NOTES	

STORM SEWER STRUCTURE TABLE					
Structure Name	STATION	OFFSET	TYPE	RIM/FG	FL INFO
EX AREA DRAIN	9+08.15	-114.97	EX AREA DRAIN	555.68	FL: 554.45 (Out) SE
EX MH	6+37.70	0.00	EX STRM MH, 60-IN	555.39	FL: 550.37 (In) N
INT-2	7+38.79	24.03	SW-501	556.48	FL: 552.31 (Out) W
INT-3	7+43.64	-21.32	SW-501	556.60	FL: 552.31 (Out) E
INT-5	9+90.03	-24.60	SW-501	561.35	FL: 555.68 (In) NW FL: 555.58 (Out) SE FL: 556.34 (In) NE
INT-6	11+01.07	20.35	SW-501	567.68	FL: 563.87 (In) SW FL: 559.56 (Out) SE
INT-7	11+09.60	-19.49	SW-501	567.93	FL: 564.37 (Out) NE FL: 564.62 (In) NW
INT-8	12+95.88	-17.54	SW-501	574.61	FL: 570.52 (In) S FL: 570.38 (Out) SE
INT-9	12+79.19	-31.43	SW-501	574.17	FL: 570.74 (Out) N
INT-10	8+28.71	-102.41	SW-501	560.11	FL: 556.73 (In) NW FL: 556.53 (Out) E
INT-11	8+73.90	-115.14	SW-501	560.40	FL: 557.13 (Out) SE FL: 557.13 (In) NW
INT-12	7+99.31	30.79	SW-501	557.14	FL: 553.20 (In) N FL: 553.10 (Out) W
INT-13	8+66.06	83.62	SW-501	556.76	FL: 554.08 (Out) S FL: 554.08 (In) NW
INT-14	8+92.77	63.81	SW-501	558.21	FL: 555.24 (In) NE
INT-15	8+94.72	82.97	SW-501	557.75	FL: 555.24 (Out) SW
INT-16	9+76.99	31.82	SW-501	560.46	FL: 557.50 (Out) SW
STMH-1	7+41.13	1.37	SW-401	556.91	FL: 551.97 (In) N FL: 551.87 (Out) S FL: 551.97 (In) E FL: 551.97 (In) W
STMH-4	8+09.09	-3.03	SW-503	557.87	FL: 554.50 (In) W FL: 552.88 (In) NW FL: 552.65 (Out) S FL: 552.75 (In) E

STORM SEWER PIPE TABLE							
Pipe Name	PIPE TYPE	Length	Slope	START INVERT	END INVERT	FROM STRUCTURE	TO STRUCTURE
P-1	18" Ø RCP	103.0	1.45%	551.87	550.37	STMH-1	EX MH
P-2	15" Ø RCP	22.8	1.50%	552.31	551.97	INT-2	STMH-1
P-3	15" Ø RCP	22.8	1.50%	552.31	551.97	INT-3	STMH-1
P-4	18" Ø RCP	68.0	1.00%	552.65	551.97	STMH-4	STMH-1
P-5	15" Ø RCP	161.7	1.67%	555.58	552.88	INT-5	STMH-4
P-6	15" Ø RCP	111.9	3.48%	559.56	555.68	INT-6	INT-5
P-7	15" Ø RCP	40.7	1.23%	564.37	563.87	INT-7	INT-6
P-8	15" Ø RCP	189.3	3.04%	570.38	564.62	INT-8	INT-7
P-9	15" Ø RCP	21.7	1.00%	570.74	570.52	INT-9	INT-8
P-10	15" Ø RCP	101.1	2.01%	556.53	554.50	INT-10	STMH-4
P-11	15" Ø RCP	42.3	0.95%	557.13	556.73	INT-11	INT-10
P-11A	15" Ø RCP	9.6	-27.98%	554.45	557.13	EX AREA DRAIN	INT-11
P-12	15" Ø RCP	35.2	1.00%	553.10	552.75	INT-12	STMH-4
P-13	15" Ø RCP	88.1	1.00%	554.08	553.20	INT-13	INT-12
P-14	15" Ø RCP	40.1	1.00%	554.48	554.08		INT-13
P-15	15" Ø RCP	19.4	0.00%	555.24	555.24	INT-15	INT-14
P-16	15" Ø RCP	57.9	2.00%	557.50	556.34	INT-16	INT-5

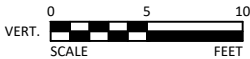
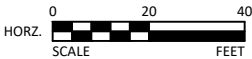
PIPE TABULATION		
MATERIAL	SIZE	LENGTH (LF)
RCP (STORM)	15"	971
RCP (STORM)	18"	189
PVC (SANITARY)	8"	671

STRUCTURE TABULATION	
TYPE	QTY
SW-301	2
SW-401	1
SW-501	14
SW-503	1

SANITARY SEWER STRUCTURE TABLE					
Structure Name	STATION	OFFSET	TYPE	RIM/FG	FL INFO
EXMH-1	6+29.90	-12.74	SSWR-MH-EC-N 60	554.57	FL: 545.59 (In) NW
FERNCO COUPLER	8+88.38	-88.04	Null Structure	553.68	FL: 552.91 (Out) NW FL: 552.91 (Out) SE
FERNCO COUPLER	8+61.21	-83.03	Null Structure	552.93	FL: 552.15 (In) NW FL: 552.15 (Out) SE
SSMH-1	8+47.09	-79.33	SSWR-MH-EC-N 60	559.45	FL: 551.56 (In) NW FL: 551.56 (Out) SE FL: 552.00 (In) SW
SSMH-2	12+49.35	-10.14	SSWR-MH-EC-N 60	573.98	FL: 565.44 (In) SE

SANITARY SEWER PIPE TABLE							
Pipe Name	PIPE TYPE	Length	Slope	START INVERT	END INVERT	FROM STRUCTURE	TO STRUCTURE
P-21	8" Ø PVC	226.2	2.64%	551.56	545.59	SSMH-1	EXMH-1
P-22	8" Ø PVC	13.5	4.38%	552.15	551.56	FERNCO COUPLER	SSMH-1
P-23	8" Ø C900 PVC	20.0	3.78%	552.91	552.15	FERNCO COUPLER	FERNCO COUPLER
P-24	8" Ø PVC	324.4	-3.86%	565.44	552.91	SSMH-2	FERNCO COUPLER
P-25	8 inch PVC Pipe	86.1	2.17%	553.87	552.00		SSMH-1
Pipe - (9)	4 inch PVC Pipe	39.4	2.54%	561.00	560.00		

SANITARY SEWER SERVICE		
STATION	SIZE	REMARKS
20+79	UNKNOWN	
20+83	UNKNOWN	
12+00	UNKNOWN	DEKOCK LAW FIRM SERVICE LOCATION UNKNOWN, CONTRACTOR SHALL LOCATE AND RESTORE



REV	ISSUED FOR	DATE	DESIGNED JGS
			DRAWN JGS
			CHECKED ALH

CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
STORM & SANITARY TABULATIONS

REMOVAL OF DRIVEWAYS					
BEGIN STATION	END STATION	SIDE	PAVEMENT TYPE	AREA	REMARKS
6+67.21	6+86.62	LT	CONCRETE	24.3	
6+74.82	7+10.71	RT	CONCRETE	126.7	
10+24.36	10+49.61	LT	CONCRETE	35.4	
10+65.75	10+84.50	RT	CONCRETE	61.9	
10+82.45	10+94.00	LT	CONCRETE	19.2	
TOTAL:				267.4	

REMOVAL OF SIDEWALKS				
BEGIN STATION	END STATION	SIDE	AREA	REMARKS
6+30.16	6+64.95	LT	51.1	
6+37.92	6+83.59	RT	41.6	
6+84.64	8+29.11	LT	144.2	
7+05.83	8+30.85	RT	128.3	
8+98.25	10+62.55	RT	160.3	
8+73.46	10+84.64	LT	75.8	
10+52.00	10+83.71	LT	66.9	
10+84.34	11+11.88	RT	27.3	
10+95.32	12+40.00	LT	184.5	
12+30.57	12+44.50	RT	14.9	
12+75.9	12+89.10	RT	14.2	
12+80.22	12+98.93	LT	26.0	
21+04.91	21+49.71	LT	53.0	
21+19.55	21+51.45	RT	31.3	
22+21.88	24+52.10	RT	198.0	
22+09.58	24+52.10	LT	223.7	
TOTAL:			1441.0	

REMOVAL OF STREET LIGHTS
LOCATION
7+28, 56' LT
7+86, 29' LT
7+91, 77' LT
9+78, 48' LT
10+51, 3' LT
10+55, 56' LT
21+49, 21' RT
21+58, 39' LT
22+33, 39' RT
22+33, 25' LT
23+40, 22' RT
23+74, 25' LT
24+60, 24' RT

REMOVAL OF TRAFFIC SIGNALS
LOCATION
21+44, 22' LT
21+58, 34' RT
22+08, 37' LT

REMOVAL OF FIRE HYDRANTS
STA. 110+64, 43.4' RT
STA. 120+36, 18' RT
STA. 121+70, 16 RT

PIPE REMOVAL TABLE										
ALIGNMENT	STA	OFF	TO	STA	OFF	TYPE	MATERIAL	SIZE	LENGTH (LF)	REMARKS
MULBERRY	6+30.50	0.00		8+54.62	-70.25	STM	RCP	15"	225	
MULBERRY	6+30.40	-12.75		12+50.00	-10.25	SAN	Clay	8-12"	580	
2ND STREET	20+69.00	10.25		21+69.00	12.00	SAN	Clay	8"	100	
2ND STREET	21+46.25	17.5		21+83.50	5.50	STM	RCP	12-15"	38	
2ND STREET	21+46.50	-18.75		21+83.50	5.50	STM	RCP	12-15"	44	
2ND STREET	21+83.50	5.5		21+98.50	-34.50	STM	RCP	12-15"	43	
2ND STREET	21+98.50	-34.5		22+35.75	-45.50	STM	RCP	12-15"	39	
MULBERRY	12+50.00	-10.25		12+96.00	-17.50	STM	RCP	12-15"	48	
MULBERRY	12+77.80	-31.46		12+96.00	-17.50	STM	RCP	12-15"	23	
2ND STREET	21+46.50	-18.75		21+47.00	-33.00	STM	RCP	12-15"	14	
						TOTALS:			680	LF
							STM -	474		LF

STRUCTURES REMOVAL TABLE				
ALIGN	STATION	OFFSET	TYPE	REMARKS
2ND ST	21+46.00	18.00	INTAKE	DOUBLE
2ND ST	21+46.50	-19.00	INTAKE	DOUBLE
2ND ST	21+69.00	9.37	SAN MH	
2ND ST	21+83.50	5.39	STM MH	
2ND ST	21+98.50	-34.40	INTAKE	
2ND ST	22+35.85	-45.64	INTAKE	
2ND ST	22+71.00	9+75	SAN MH	
MULBERRY	12+49.50	-10.00	SAN MH	
MULBERRY	12+77.75	-31.50	INTAKE	
MULBERRY	12+96.00	-17.70	INTAKE	
	TOTALS:	INTAKES	6	
		MANHOLES	4	



**BOLTON
& MENK**

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED JGS
			DRAWN JGS
			CHECKED ALH

CITY OF MUSCATINE, IOWA

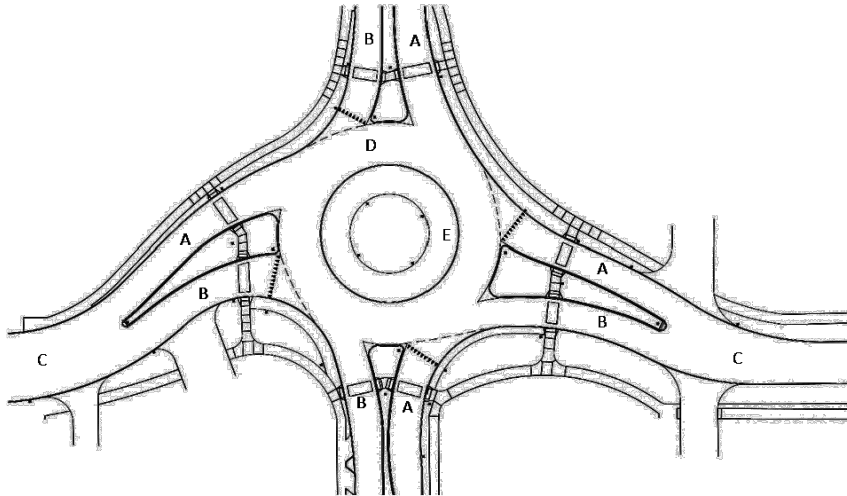
2ND & MULBERRY ROUNDABOUT

TABULATIONS

SHEET

C.07

PCC PAVEMENT



LOCATION				AREAS				
ROAD IDENTIFICATION	DIRECTION OF TRAVEL	STATION TO STATION		A	B	C	D	E
				SY	SY	SY	SY	SY
MULBERRY	BOTH	5+85	7+08			437.8		
MULBERRY	NB	7+08	8+13	223.7				
MULBERRY	SB	7+08	8+13		210.4			
MULBERRY	ROUND	8+13	9+46				1142.1	
MULBERRY	ROUND	8+13	9+46					373.9
MULBERRY	NB	9+46	10+51	270.5				
MULBERRY	SB	9+45	10+51		223.73			
MULBERRY	BOTH	10+51	11+29			355.9		
2ND	BOTH	80+81	81+09			122.1		
2ND	EB	81+09	82+12	230.7				
2ND	WB	81+09	82+12		219.2			
2ND	EB	83+43	84+14	170.3				
2ND	WB	83+43	84+14		150.5			
2ND	BOTH	84+14	84+72			273.3		
			SUBTOTALS:	895.2	803.83	1189.07	1142.1	373.9
			TOTAL:	4404.1				

HMA PAVEMENT

LOCATION				AREAS
ROAD IDENTIFICATION	DIRECTION OF TRAVEL	STATION TO STATION		SY
MULBERRY	SB	12+99	11+29	353.1

SIDEWALK PAVEMENT

ROAD IDENTIFICATION	LOCATION				AREA		
	STATION TO STATION		SIDE	WIDTH	5" PCC SIDEWALK	10" PCC RAMP	DETECTABLE WARNINGS
				FT	SY	SY	SF
MULBERRY	5+85	6+87	RT	6	61.5		
MULBERRY	7+23	8+89	RT	6	188.2		
MULBERRY	5+85	6+67	LT	10	121.1		
MULBERRY	6+95	8+31	LT	6	117		
MULBERRY	9+06	11+11	RT	5	209.7		
MULBERRY	8+58	10+13	LT	6	107.6		
MULBERRY	10+42	10+83	LT	6	33.7		
MULBERRY	10+96	11+29	LT	11	49.8		
MULBERRY	11+29	12+39	LT	10	107.2		
MULBERRY	12+80	12+99	LT	9	25.9		
2ND	21+60	21+66	RT	6		11.1	12
2ND	21+66	21+72	RT	6		3.69	12
2ND	21+66	21+72	LT	6		4.1	12
2ND	21+62	21+68	LT	6		6.2	12
2ND	23+54	23+58	RT	6		4.2	10
2ND	23+48	23+53	RT	6		3.2	10
2ND	23+47	23+52	LT	6		3.3	10
2ND	23+51	23+56	LT	6		3	10
MULBERRY	7+75	7+81	RT	6		5.8	12
MULBERRY	7+76	7+81	RT	6		6.03	12
MULBERRY	7+74	7+79	LT	6		6.6	12
MULBERRY	7+68	7+74	LT	6		8.6	12
MULBERRY	9+73	9+68	RT	6		2.8	10
MULBERRY	9+64	9+68	RT	6		6.8	10
MULBERRY	9+65	9+70	LT	6		5.56	10
MULBERRY	9+77	9+82	LT	6		6.92	10
				TOTALS:	1021.7	87.9	176

CURB AND GUTTER

STATION TO STATION		SIDE	CURB HEIGHT	WIDTH	LENGTH
			IN	FT	FT
11+28.70	12+39.24	LT	6	3	117.7
12+30.46	12+44.53	RT	6	3	24.0
12+80.19	12+98.90	LT	6	3	30.8
12+75.88	12+89.04	RT	6	3	20.5
				TOTAL:	193.0

DRIVEWAYS, PAVED					
STATION	SIDE	1 1/2" DROPPED CURB	WIDTH	RADIUS	DRIVEWAY SURFACE AREA
					PCC
		FT	FT	FT	SY
7+01.99	RT	68	25	VARIES	106
6+81.09	LT	67	22	VARIES	70.6
10+21.44	LT	48	30	9	206.4
10+64.39	RT	31.1	20		37.5
10+89.32	LT	39	15	15	43.5
21+10.15	LT	14.1	16		8.7
21+35.39	LT	15.3	16		6.5
				TOTAL:	479.2



BOLTON & MENK

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED
			JGS
			DRAWN
			JGS
			CHECKED
			ALH

CITY OF MUSCATINE, IOWA

2ND & MULBERRY ROUNDABOUT

TABULATIONS

SHEET

C.08

COMMUNCATIONS - HAND HOLES	
LOCATION	SIZE
6+90, 36' LT	30"X48"
23+74, 25' RT	30"X48"

COMMUNCATIONS CONDUIT, QUAD DUCT			
LOCATION	CONDUIT TYPE	LENGTH	LOCATION
5+88, 15' LT	QUAD DUCT	109	6+90, 36' LT
6+90, 36' LT	QUAD DUCT	270	23+74, 25' RT
23+74, 25' RT	QUAD DUCT	195	23+90, 166' LT
23+74, 25' RT	QUAD DUCT	73	24+48, 19' RT

WATER MAIN, DR11 HDPE			
LOCATION	SIZE	LENGTH	LOCATION
STA. 100+00	10"	26'	100+26
STA. 100+26	12"	287'	103+13
STA. 110+00	6"	238'	112+38
STA. 120+00	12"	190'	121+90

TAPPING SLEEVES	
LOCATION	SIZE
STA. 100+00	10"X10"
STA. 103+13	12"X12"
STA. 121+90	12"X12"

WATER FITTINGS				
LOCATION	SIZE	TYPE	MATERIAL	COMMENTS
STA. 100+04	10"	90	HDPE	
STA. 100+22	10"X6"	REDUCER	HDPE	
STA. 100+26	12"X6"	TEE	HDPE	
STA. 100+45	12"	22-1/2	HDPE	VERTICAL BEND
STA. 100+51	12"	22-1/2	HDPE	VERTICAL BEND
STA. 100+62	12"X12"	TEE	HDPE	
STA. 102+15	12"X6"	TEE	HDPE	HYDRANT TEE
STA. 103+04	12"	90	HDPE	
STA. 121+82	12"	90	HDPE	
STA. 100+00, 5' RT	10"	CAP	DI	
STA. 103+13, 5' RT	12"	CAP	DI	
STA. 121+90, 5' LT	12"	CAP	DI	

WATER FIRE HYDRANTS	
LOCATION	
STA. 102+15, 20' LT	

JUNCTION BOXES	
LOCATION	SIZE
10+92, 21' RT	13"X24"
11+08, 33' LT	13"X24"
8+79	10" DIA.

TRANSMISSION - 69kV DUCT BANK			
LOCATION	LENGTH	LOCATION	COMMENTS
STA. 201+37	381'	STA. 205+18	3X2 CONFIGURATION

STREET LIGHTS, STREET LIGHT		
LIGHT NO.	LOCATION	JUNCTION BOX TYPE
1	6+52, 13' RT	8"X18"
2	7+28, 23' LT	8"X18"
3	8+15, 40' RT	8"X18"
4	8+18, 49' LT	8"X18"
5	9+30, 46' RT	8"X18"
6	9+50, 43' LT	8"X18"
7	9+92, 32' RT	8"X18"
8	10+56, 28' LT	8"X18"
9	23+48, 35' RT	8"X18"
10	24+22, 26' LT	8"X18"

ELECTRICAL 2-INCH LIGHT FEED CONDUIT			
LOCATION	LENGTH	LOCATION	COMMENTS
6+52, 13' RT	159'	8+15, 40' RT	LIGHT NO. 1 TO LIGHT NO. 3
22+80, 62' RT	87'	23+48, 35' RT	LIGHT NO. 3 TO LIGHT NO. 9
23+48, 35' RT	72'	24+22, 26' RT	LIGHT NO. 9 TO LIGHT NO. 10
24+22, 26' LT	26'	24+48, 27' LT	LIGHT NO. 10 TO EXISTING CONDUIT AT ORANGE ST
9+30, 46' RT	87'	9+92, 32' RT	LIGHT NO. 5 TO LIGHT NO. 7
9+92, 32' RT	96'	10+92, 21' RT	LIGHT NO. 7 TO 13"X24" JUNCTION BOX
10+92, 21' RT	27'	11+28, 23' RT	13"X24" JUNCTION BOX TO EXISTING CONDUIT ON MULBERRY ST
10+92, 21' RT	55'	11+08, 33' LT	13"X24" JUNCTION BOX TO 13"X24" JUNCTION BOX
11+08, 33' LT	62'	10+56, 28' LT	13"X24" JUNCTION BOX TO LIGHT NO. 8
10+56, 28' LT	104'	9+50, 43' LT	LIGHT NO. 8 TO LIGHT NO. 6
11+08, 33' LT	242'	8+79	13"X24" JUNCTION BOX TO 10" JUNCTION BOX
22+15, 55' LT	119'	21+02, 21' LT	LIGHT NO. 6 TO EXISTING CONDUIT ON 2ND ST
20+83, 21' RT	115'	21+95, 45' RT	EXISTING CONDUIT ON 2ND ST TO LIGHT NO. 4
8+18, 49' LT	90'	7+28, 23' LT	LIGHT NO. 4 TO LIGHT NO. 2

ELECTRICAL 6-INCH CONDUIT			
LOCATION	LENGTH	LOCATION	COMMENTS
6+98, 2' LT	321'	24+48, 21' RT	MANHOLE AT 31 ALLEY TO EXISTING CONDUIT AT ORANGE ST



**BOLTON
& MENK**

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED JGS
			DRAWN JGS
			CHECKED ALH

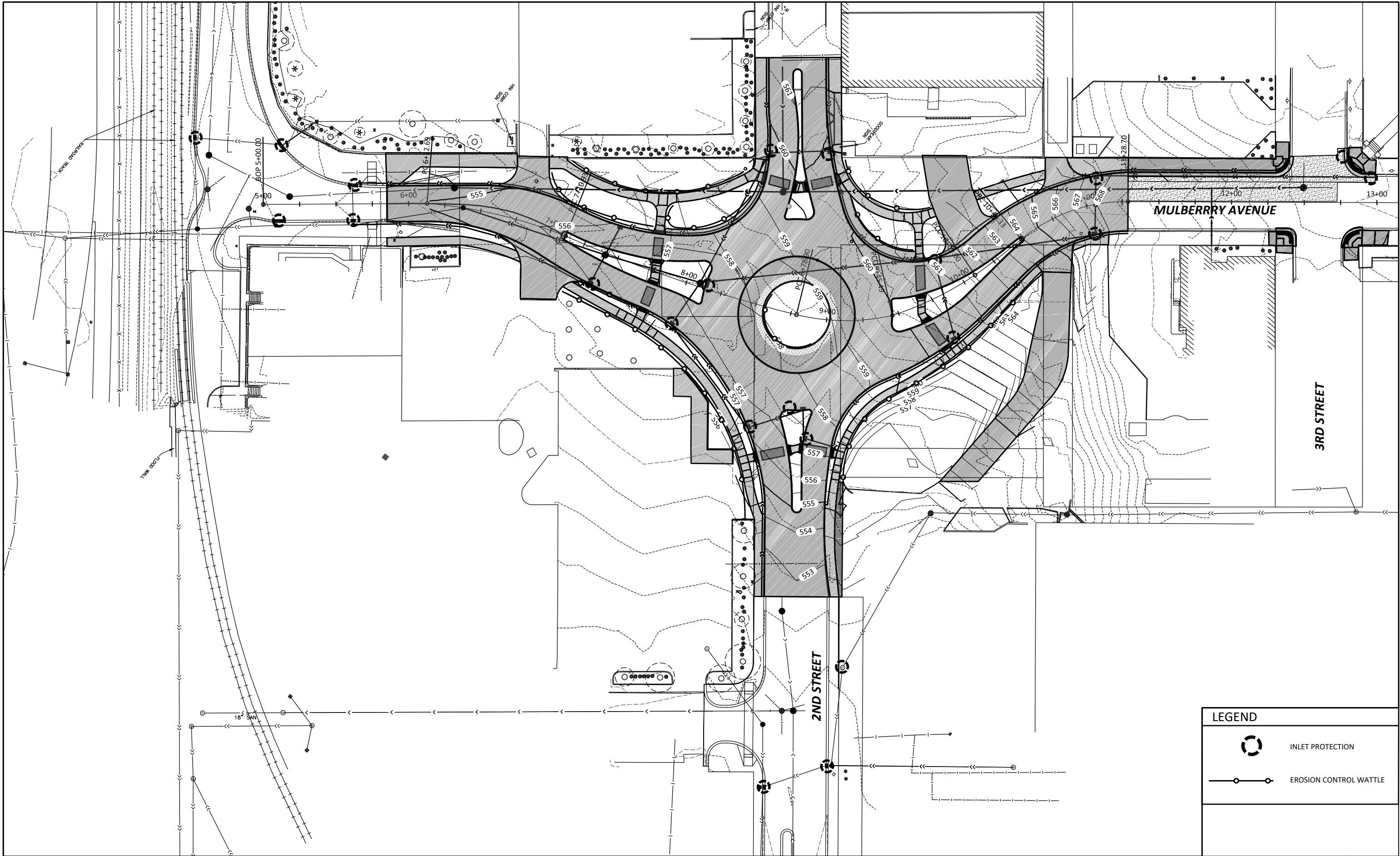
CITY OF MUSCATINE, IOWA

2ND & MULBERRY ROUNDABOUT

TABULATIONS

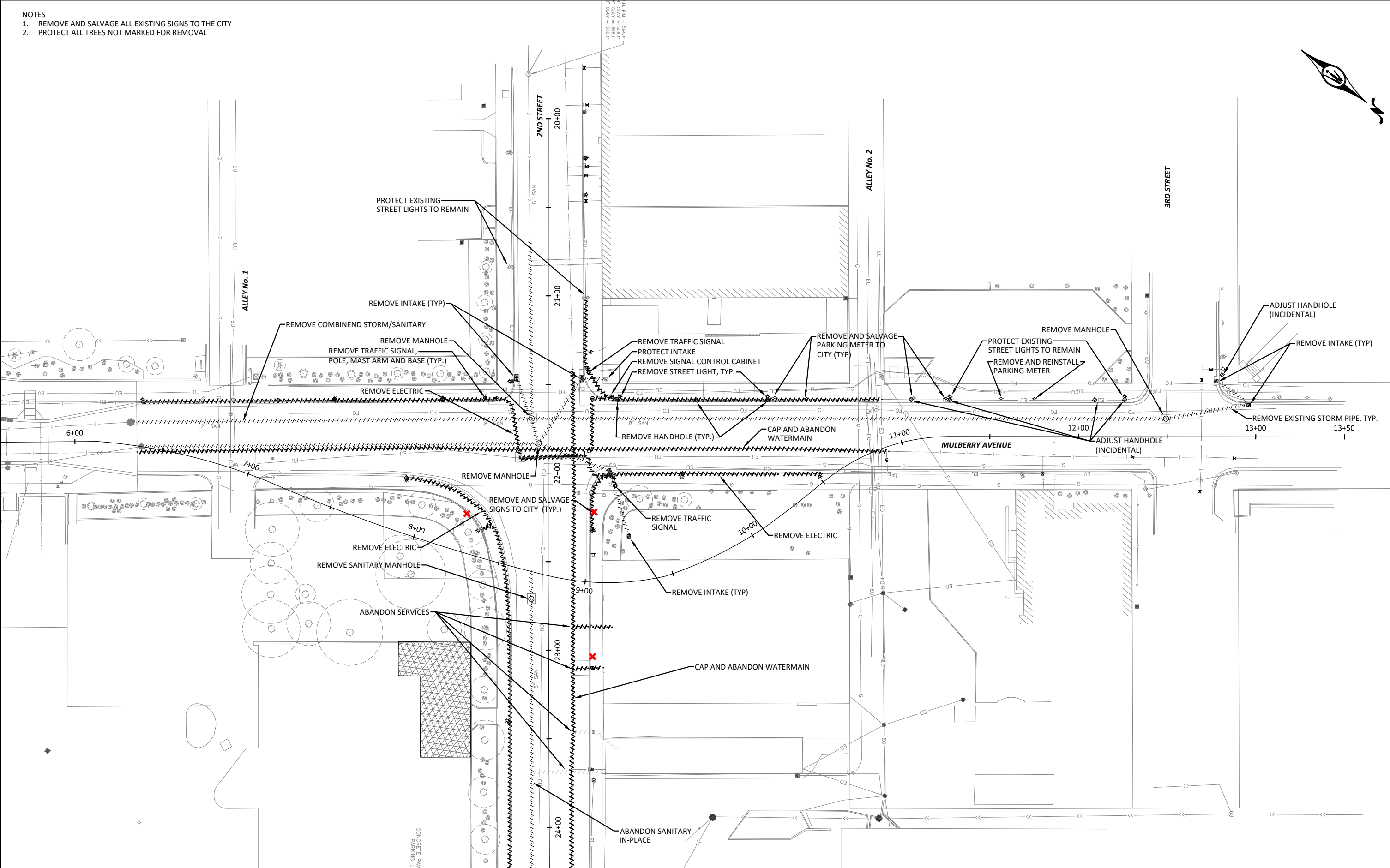
SHEET

C.09

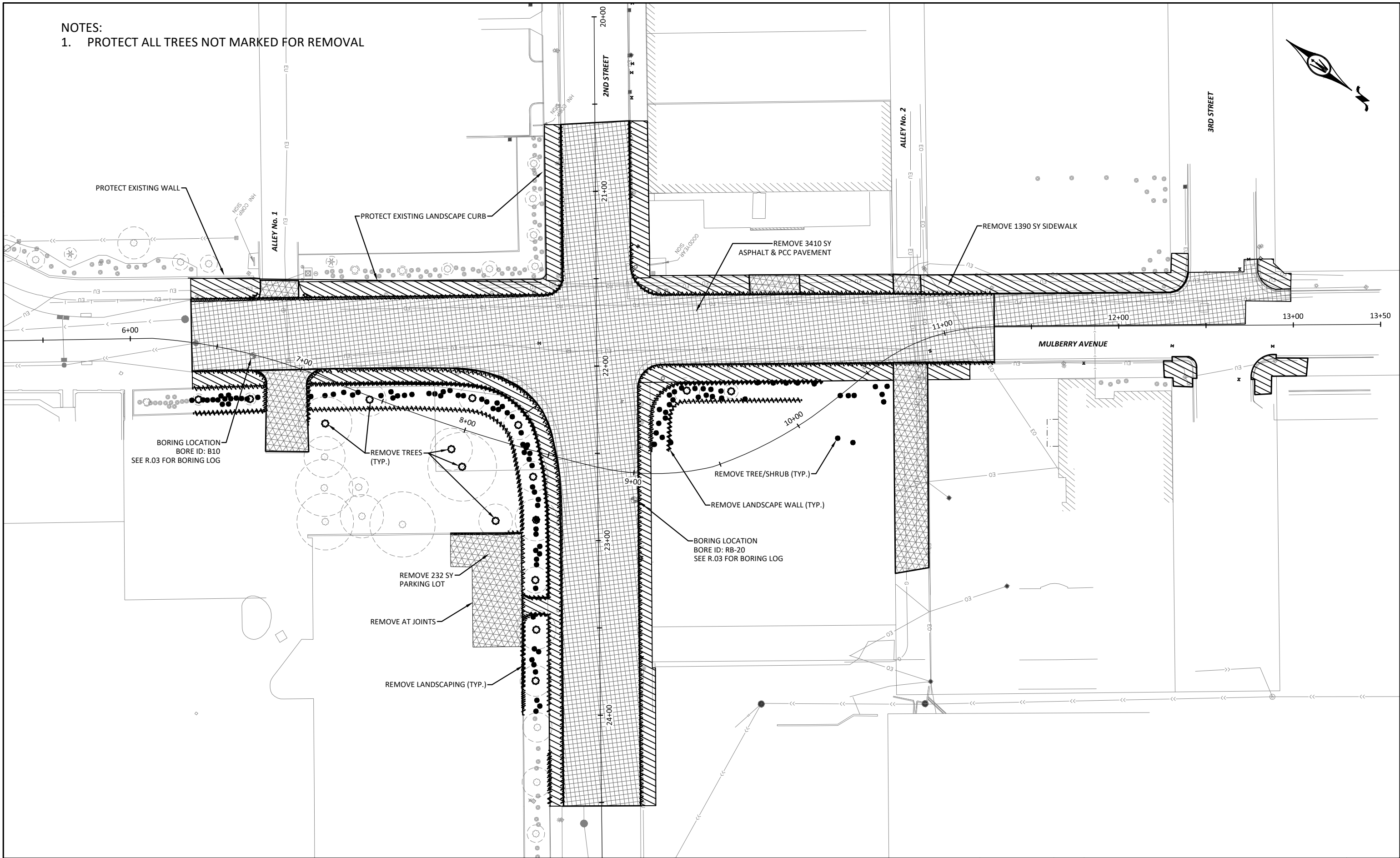


LEGEND	
	INLET PROTECTION
	EROSION CONTROL WATTLE

- NOTES
- 1. REMOVE AND SALVAGE ALL EXISTING SIGNS TO THE CITY
 - 2. PROTECT ALL TREES NOT MARKED FOR REMOVAL



NOTES:
1. PROTECT ALL TREES NOT MARKED FOR REMOVAL



**BOLTON
& MENK**

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED
			JGS
			DRAWN
			JGS
			CHECKED
			ALH

CITY OF MUSCATINE, IOWA	
2ND & MULBERRY ROUNDABOUT	
PAVEMENT & LANDSCAPE REMOVALS	

SHEET
R.02



BORING:	RB-20
---------	--------------

DRILLER: R.Hunt/C.Gracey

METHOD:	Power Auger
---------	-------------

DATE: 10/27/16

SCALE: 1" = 4'

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GIN\PROJECTS\CEDARRAPIDS\2016\B1610125.GPJ BRAUN_V8_CURRENT.GDT 12/2/16 16:14

B16-10125

Braun Intertec Corporation

RB-20 page 1 of 1

BORING NO. 10

Page 1 of 1

CLIENT

Stanley Consultants, Inc.

ENGINEER

Stanley Consultants, Inc.

SITE

PROJECT	
---------	--

Muscatine, Iowa

Proposed Mississippi Drive Reconstruction

Boring Location: 528110.3N, 2314678.5E

BOREHOLE 99 BORING LOGS.GPJ TERRACON.GDT 1/14/11

*Pocket Penetrometer
**CME 140 lb. SPT automatic hammer

WATER LEVEL OBSERVATIONS, ft			BORING STARTED12-2-10	
WL	 NoneWD 		BORING COMPLETED12-2-10	
WL	 		RIG928FOREMANMW	
WL			APPROVEDVERJOB #07105080	
WL				

Exhibit A-12

**BOLTON
& MENK**

REV	ISSUED FOR	DATE	DESIGNED JGS
			DRAWN JGS
			CHECKED AIH

CITY OF MUSCATINE, IOWA

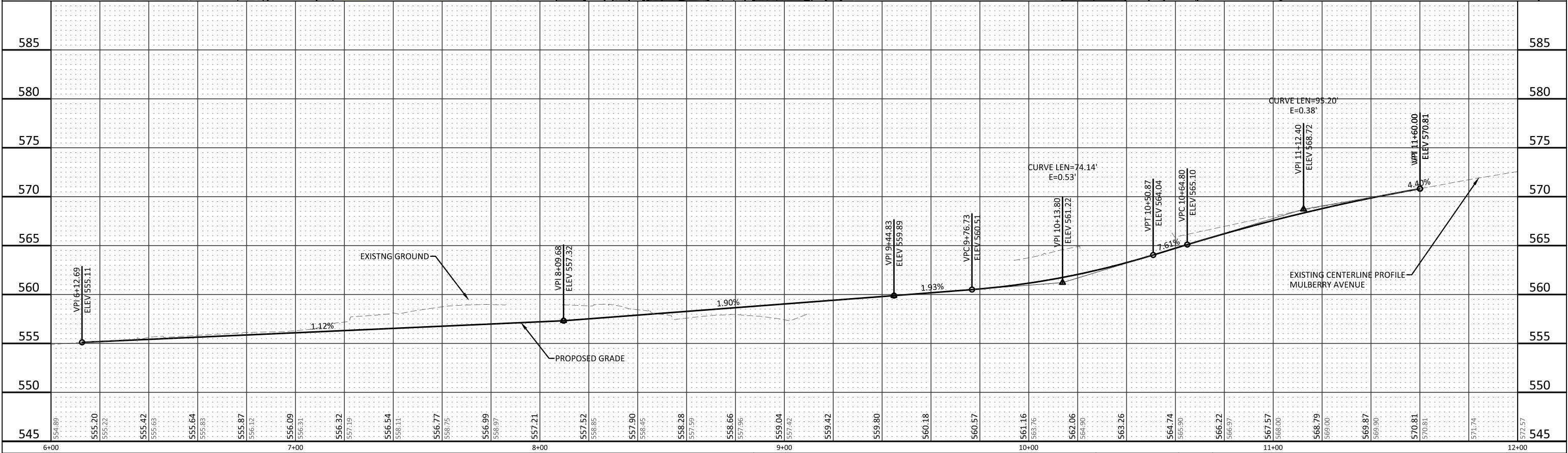
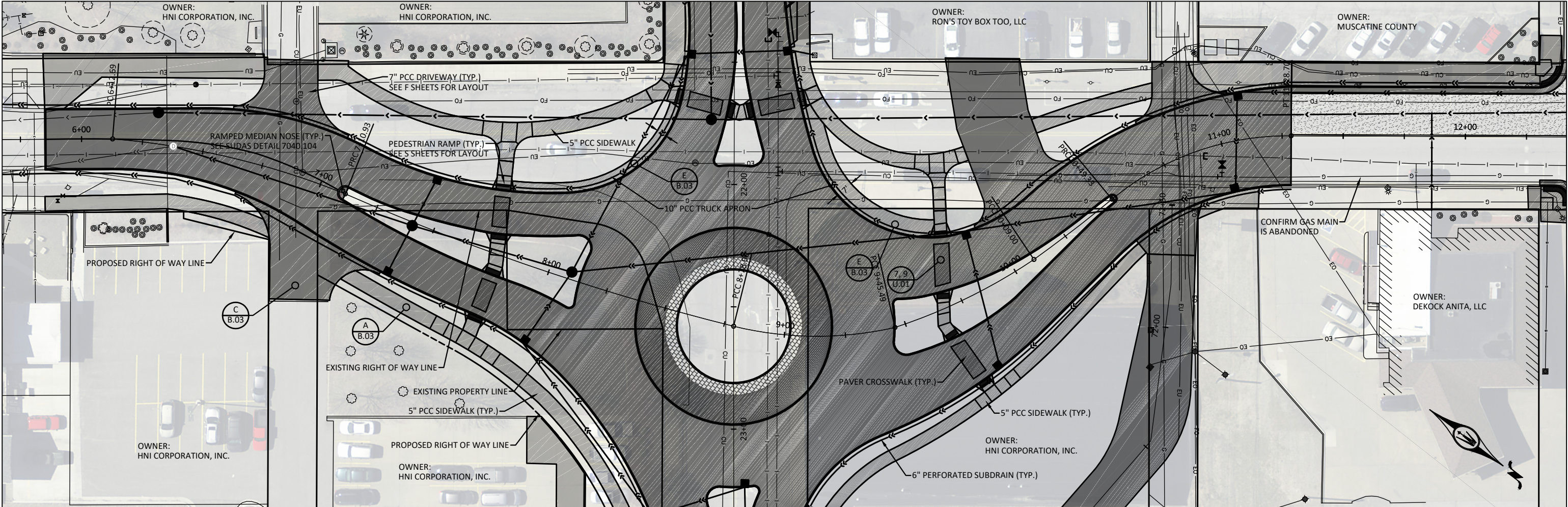
2ND & MULBERRY ROUNDABOUT

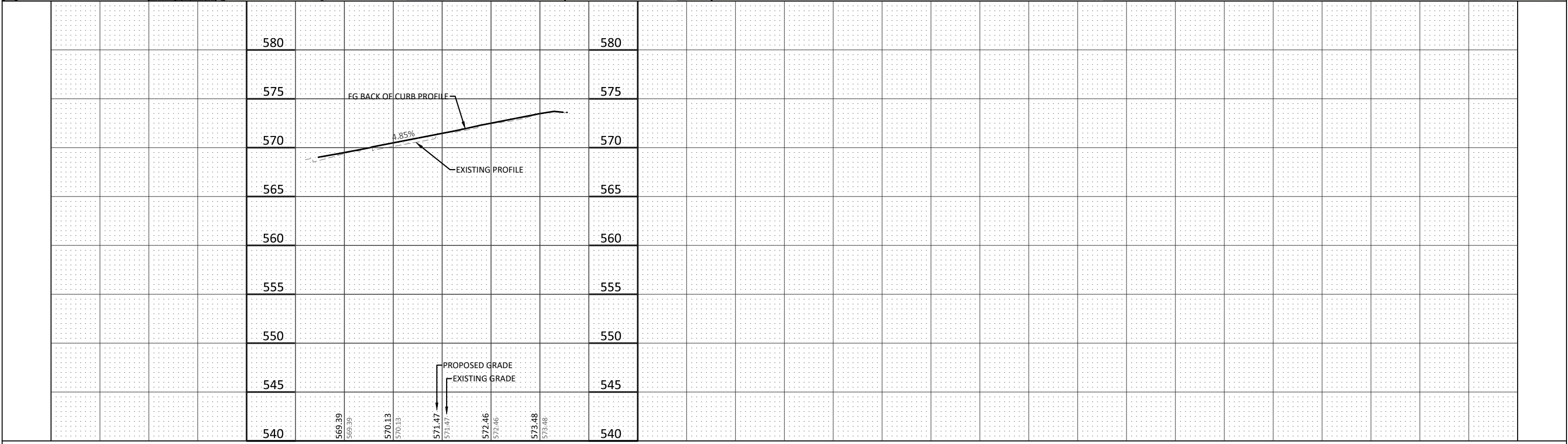
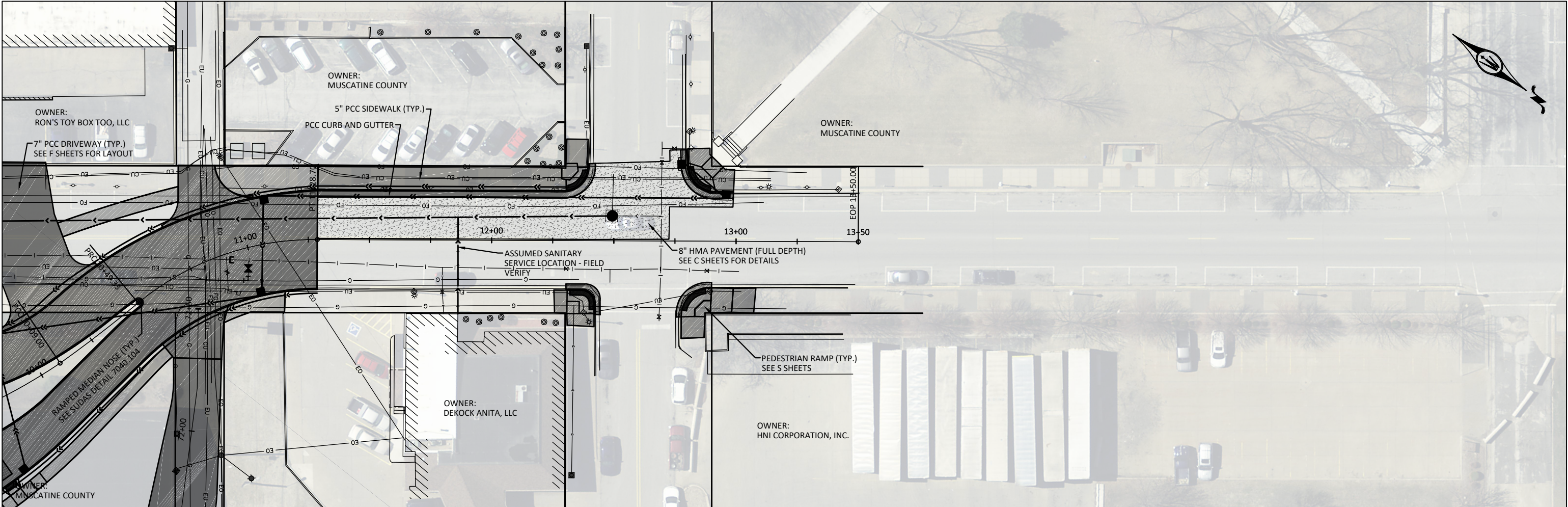
BORING LOGS

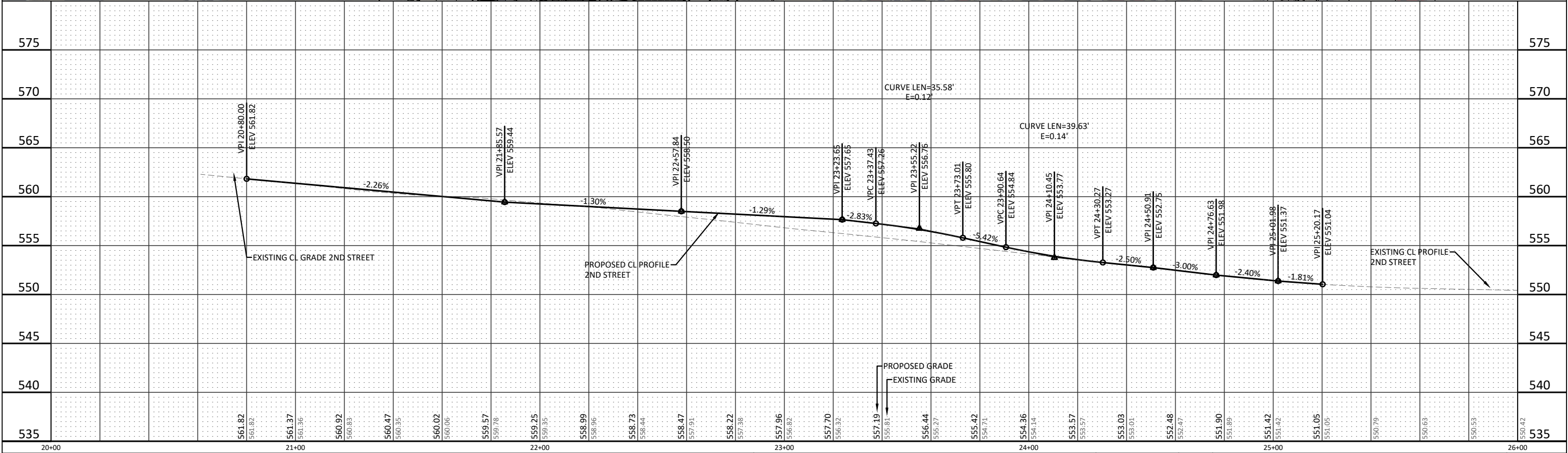
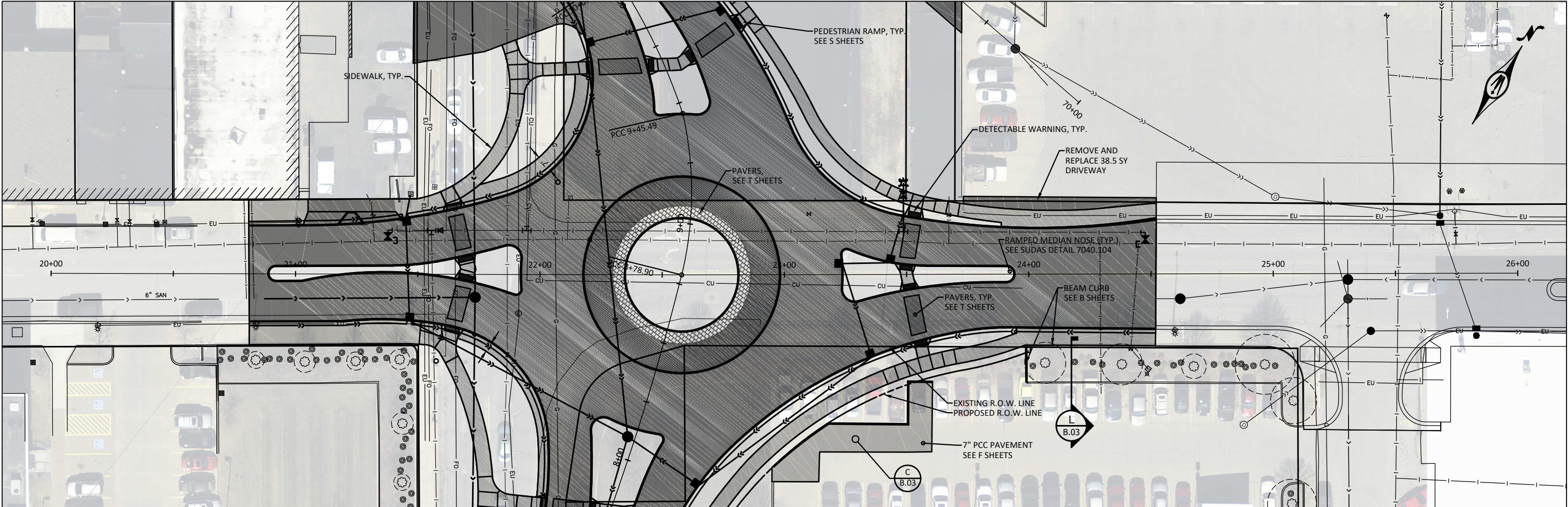
SHEET

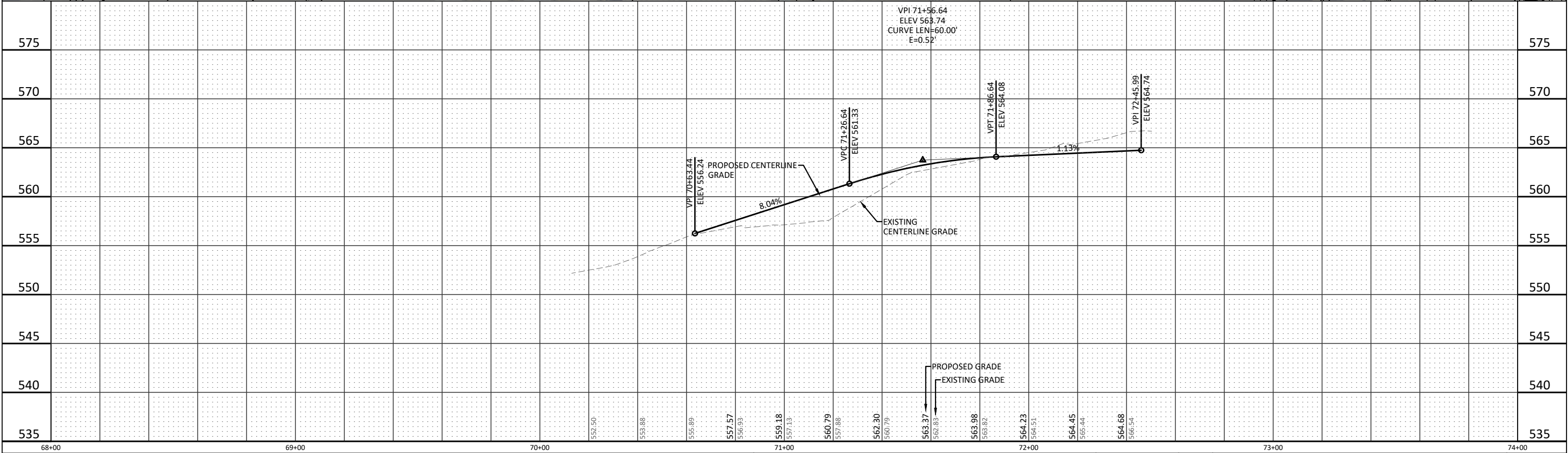
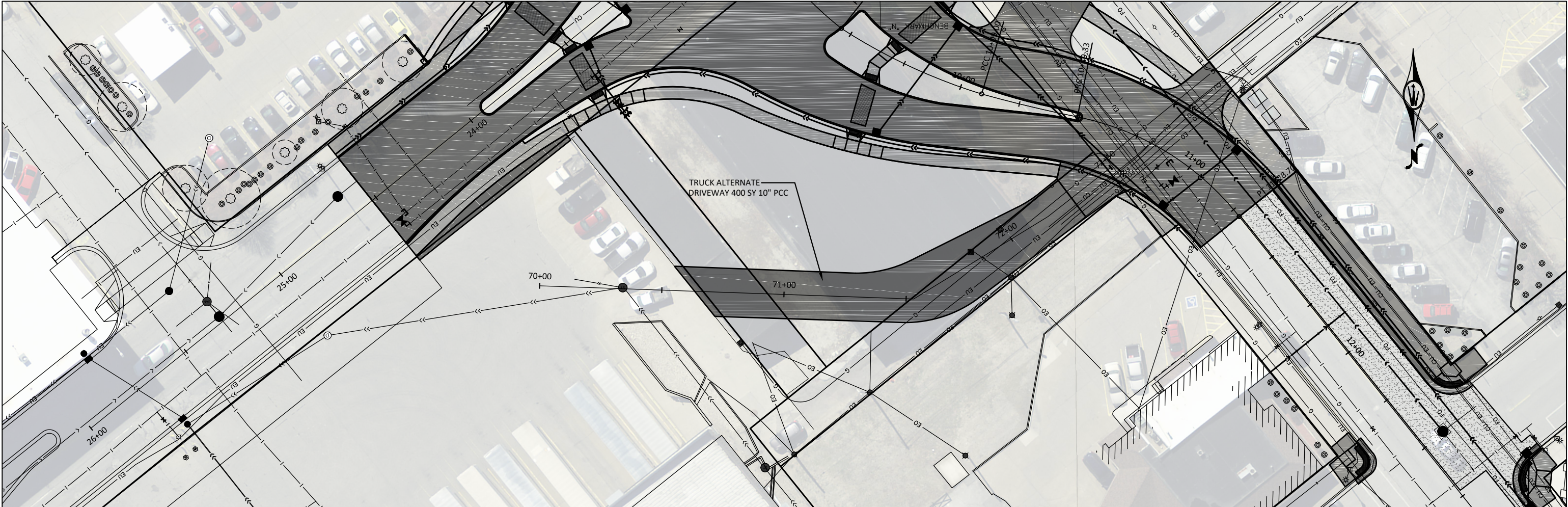
R.03

© Bolton & Menk, Inc. 2018, All Rights Reserved
H:\MUSCATIN_CI_IA\G11115855\CAD\C3D\115855R01.dwg 11/21/2018 4:21 PM

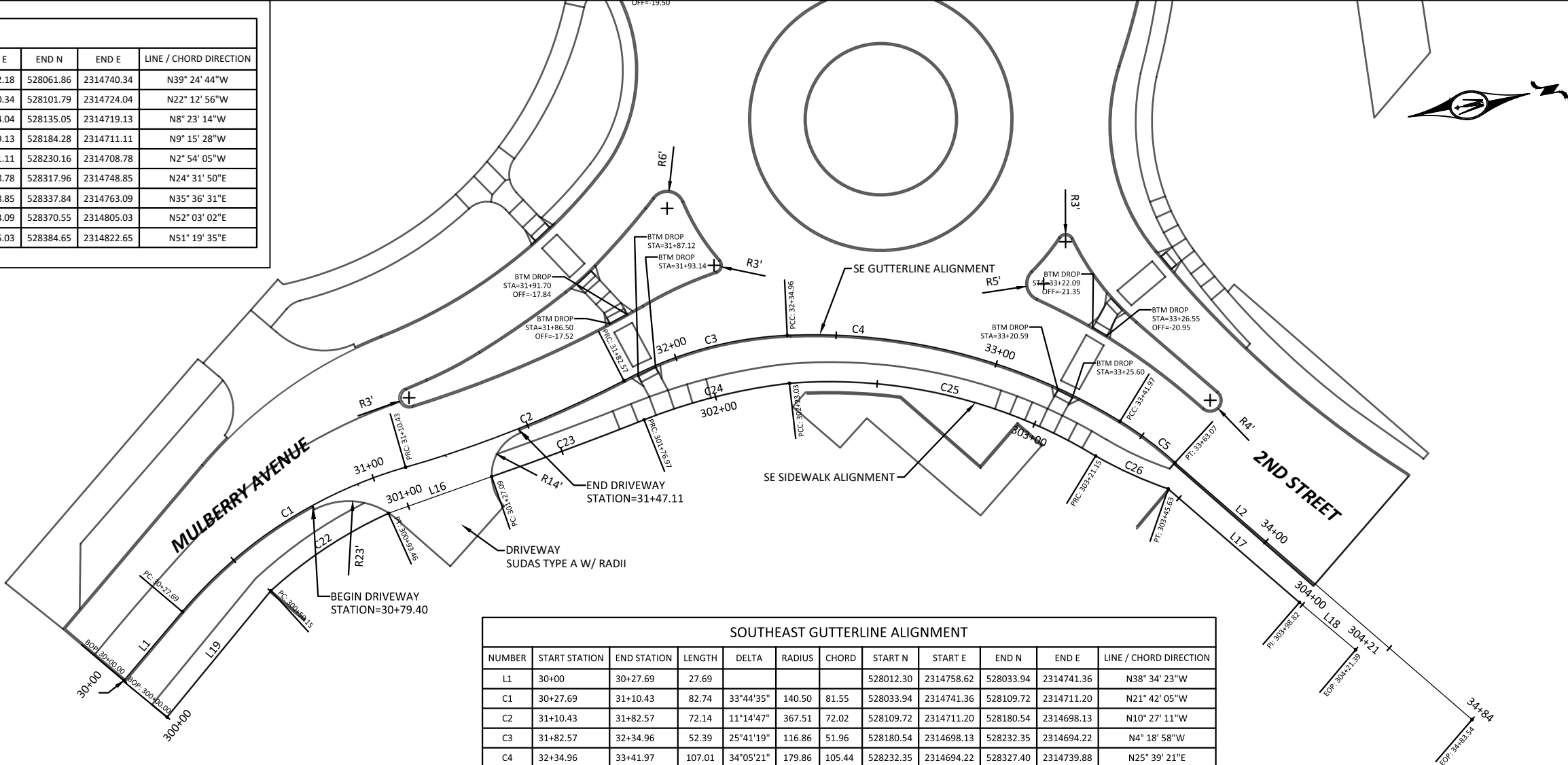




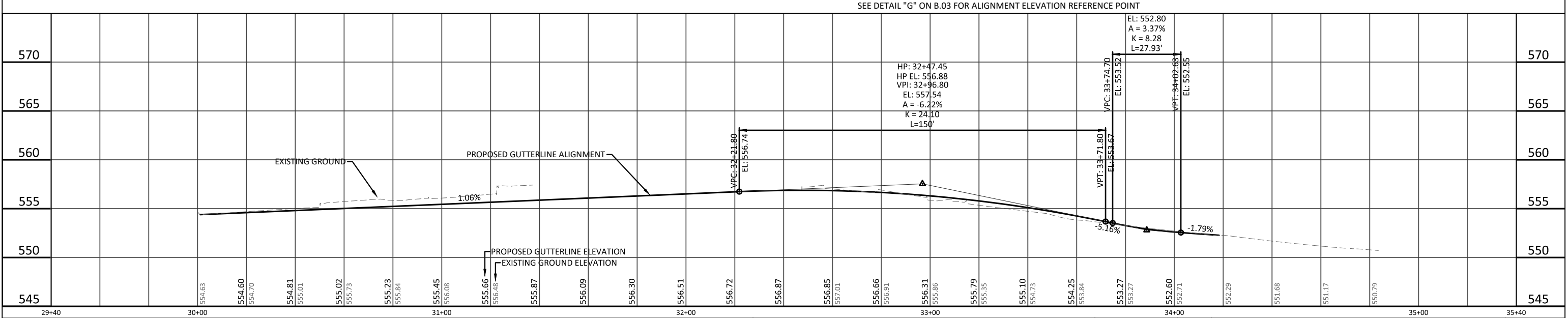




SE SIDEWALK ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L19	300+00	300+50.15	50.15				528023.11	2314772.18	528061.86	2314740.34	N39° 24' 44"W
C22	300+50.15	300+93.46	43.31	18°01'39"	137.65	43.13	528061.86	2314740.34	528101.79	2314724.04	N22° 12' 56"W
L16	300+93.46	301+27.09	33.63				528101.79	2314724.04	528135.05	2314719.13	N8° 23' 14"W
C23	301+27.09	301+76.97	49.88	2°27'44"	1160.63	49.88	528135.05	2314719.13	528184.28	2314711.11	N9° 15' 28"W
C24	301+76.97	302+23.03	46.07	14°59'53"	175.99	45.94	528184.28	2314711.11	528230.16	2314708.78	N2° 54' 05"W
C25	302+23.03	303+21.15	98.12	35°54'28"	156.56	96.52	528230.16	2314708.78	528317.96	2314748.85	N24° 31' 50"E
C26	303+21.15	303+45.63	24.48	10°33'33"	132.84	24.45	528317.96	2314748.85	528337.84	2314763.09	N35° 36' 31"E
L17	303+45.63	303+98.82	53.19				528337.84	2314763.09	528370.55	2314805.03	N52° 03' 02"E
L18	303+98.82	304+21.39	22.57				528370.55	2314805.03	528384.65	2314822.65	N51° 19' 35"E



SOUTHEAST GUTTERLINE ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L1	30+00	30+27.69	27.69				528012.30	2314758.62	528033.94	2314741.36	N38° 34' 23"W
C1	30+27.69	31+10.43	82.74	33°44'35"	140.50	81.55	528033.94	2314741.36	528109.72	2314711.20	N21° 42' 05"W
C2	31+10.43	31+82.57	72.14	11°14'47"	367.51	72.02	528109.72	2314711.20	528180.54	2314698.13	N10° 27' 11"W
C3	31+82.57	32+34.96	52.39	25°41'19"	116.86	51.96	528180.54	2314698.13	528232.35	2314694.22	N4° 18' 58"W
C4	32+34.96	33+41.97	107.01	34°05'21"	179.86	105.44	528232.35	2314694.22	528327.40	2314739.88	N25° 39' 21"E
C5	33+41.97	33+63.07	21.10	11°04'05"	109.24	21.07	528327.40	2314739.88	528341.45	2314755.57	N48° 10' 00"E
L2	33+63.07	34+83.54	120.46				528341.45	2314755.57	528415.53	2314850.57	N52° 03' 02"E



0 20 40
HORIZ. SCALE FEET

0 5 10
VERT. SCALE FEET



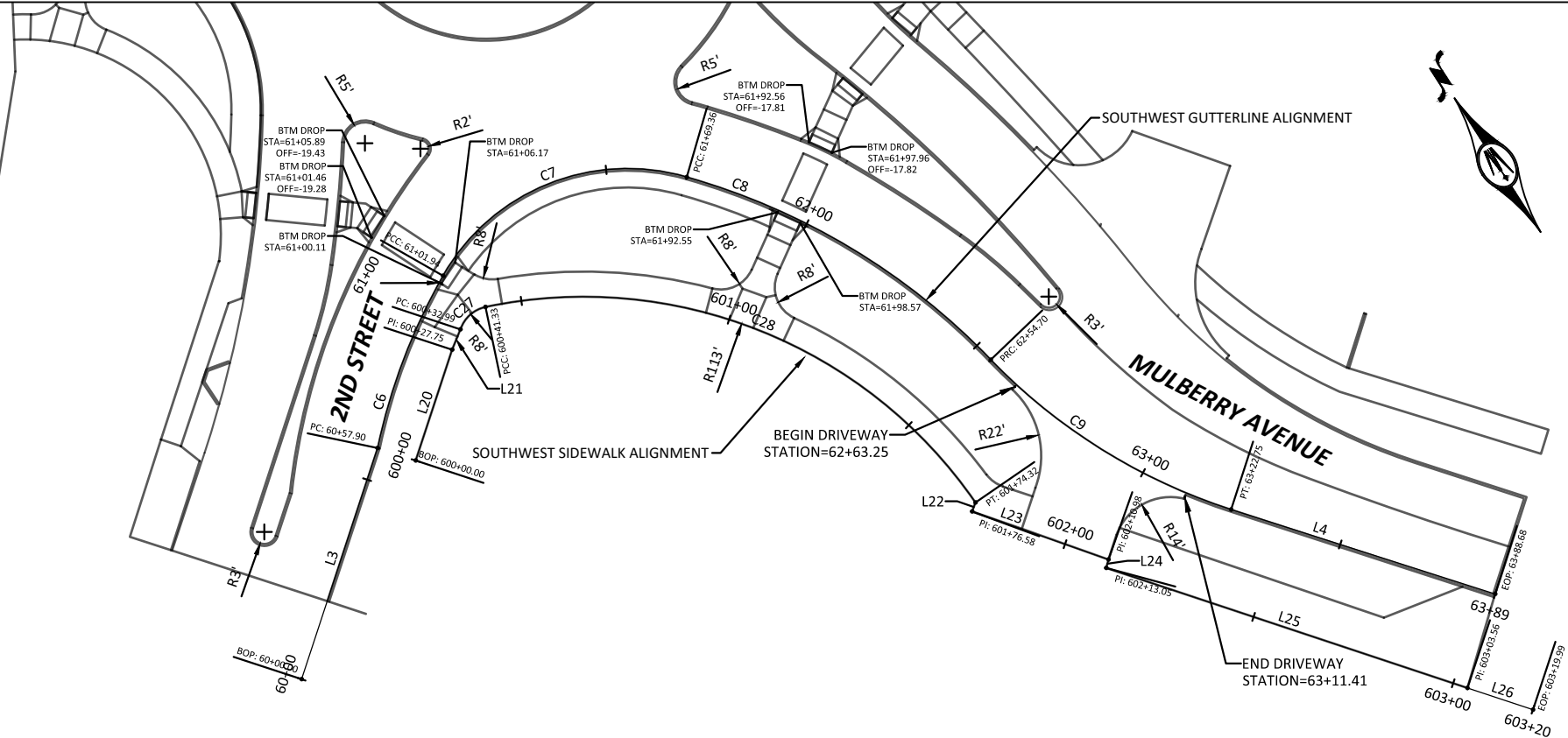
BOLTON & MENK
855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED	DRAWN	CHECKED
			JGS	JGS	ALH

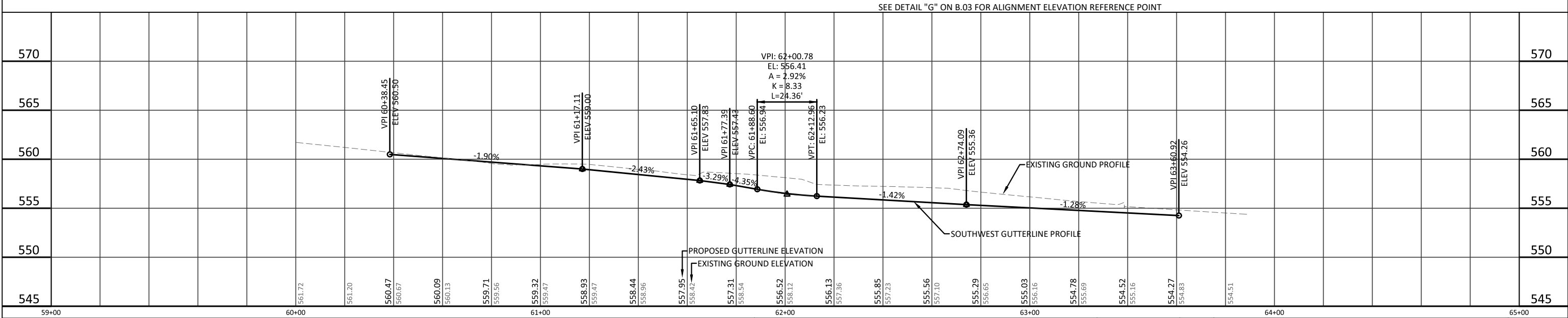
CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
GUTTERLINE PLAN & PROFILE

SHEET
F.01

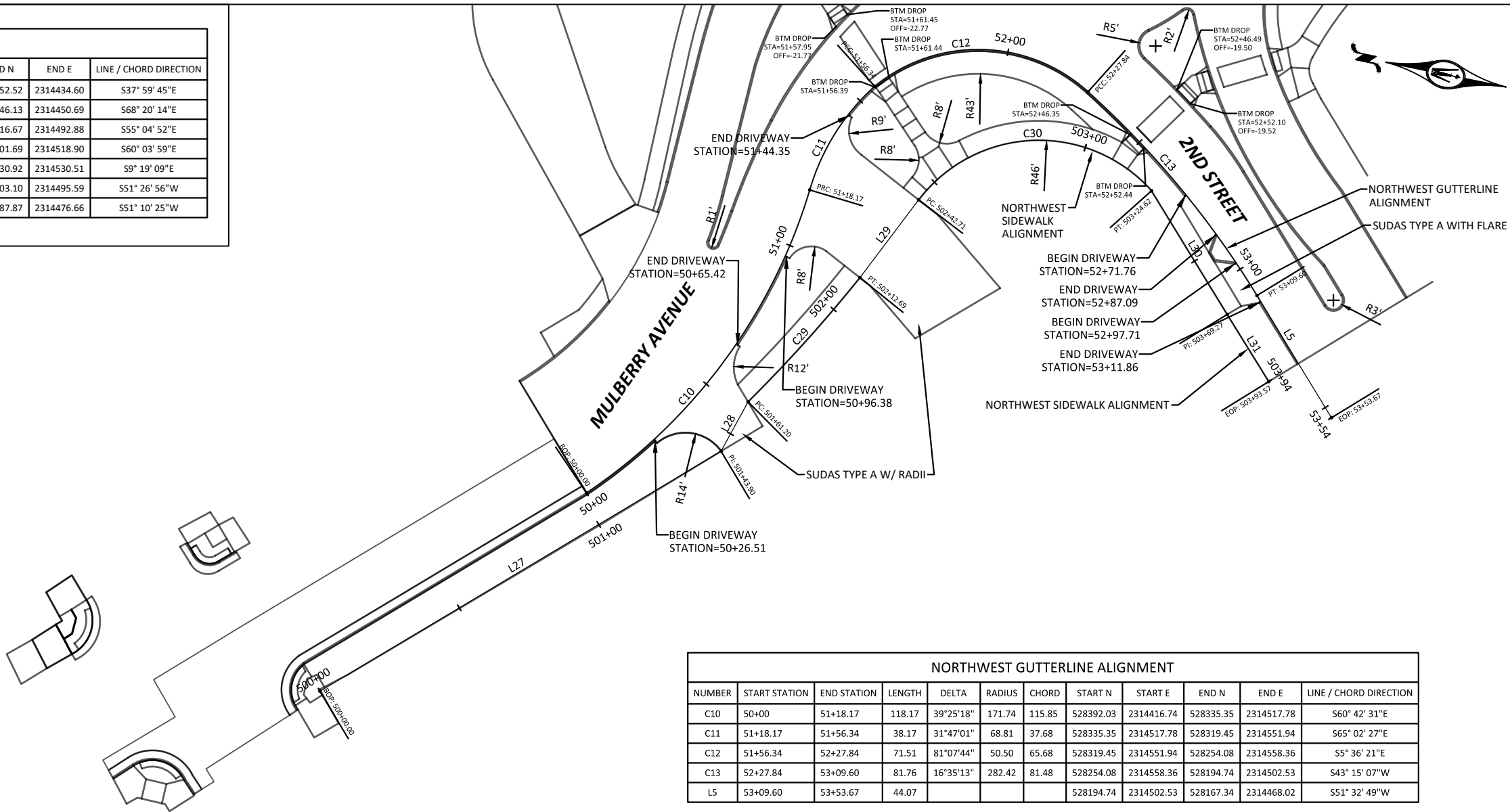
SW SIDEWALK ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L20	600+00	600+27.75	27.75				528165.55	2314543.37	528182.74	2314565.15	N51° 42' 50"E
L21	600+27.75	600+32.99	5.24				528182.74	2314565.15	528185.70	2314569.47	N55° 31' 19"E
C27	600+32.99	600+41.33	8.35	59°46'20"	8.00	7.97	528185.70	2314569.47	528186.86	2314577.36	N81° 40' 58"E
C28	600+41.33	601+74.32	132.99	67°18'08"	113.22	125.48	528186.86	2314577.36	528083.80	2314648.93	S34° 46' 41"E
L22	601+74.32	601+76.58	2.25				528083.80	2314648.93	528082.46	2314647.11	S53° 46' 08"W
L23	601+76.58	602+10.98	34.40				528082.46	2314647.11	528055.03	2314667.87	S37° 06' 49"E
L24	602+10.98	602+13.05	2.08				528055.03	2314667.87	528053.66	2314666.31	S48° 31' 59"W
L25	602+13.05	603+03.56	90.51				528053.66	2314666.31	527982.47	2314722.20	S38° 08' 15"E
L26	603+03.56	603+19.99	16.43				527982.47	2314722.20	527969.57	2314732.39	S38° 17' 00"E



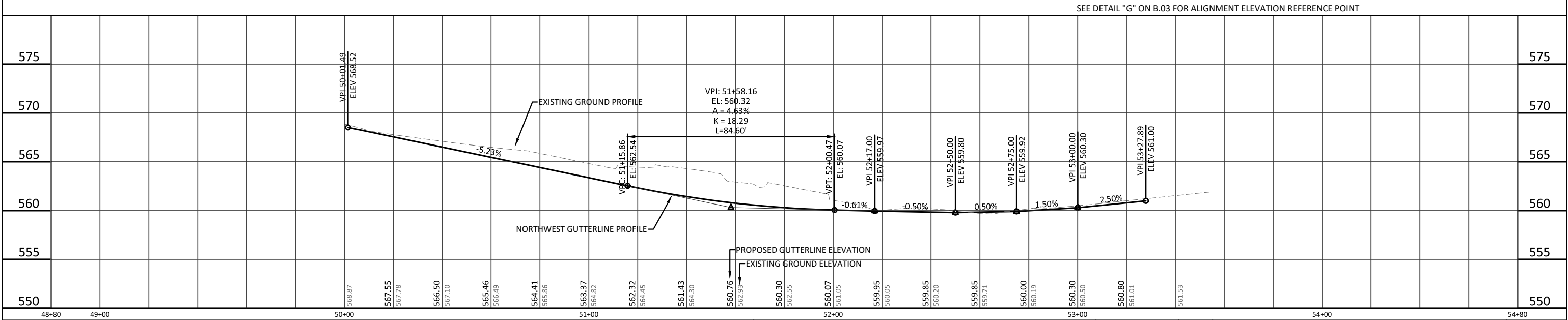
SOUTHWEST GUTTERLINE ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L3	60+00	60+57.90	57.90				528137.07	2314492.05	528173.01	2314537.44	N51° 37' 48"E
C6	60+57.90	61+01.94	44.04	17°47'14"	141.86	43.86	528173.01	2314537.44	528198.62	2314573.05	N54° 16' 28"E
C7	61+01.94	61+69.36	67.43	76°29'37"	50.50	62.53	528198.62	2314573.05	528186.25	2314634.35	S78° 34' 59"E
C8	61+69.36	62+54.70	85.34	30°19'00"	161.28	84.35	528186.25	2314634.35	528110.14	2314670.70	S25° 31' 57"E
C9	62+54.70	63+22.75	68.04	27°56'47"	139.50	67.37	528110.14	2314670.70	528048.88	2314698.75	S24° 35' 59"E
L4	63+22.75	63+88.68	65.94				528048.88	2314698.75	527997.49	2314740.05	S38° 47' 25"E



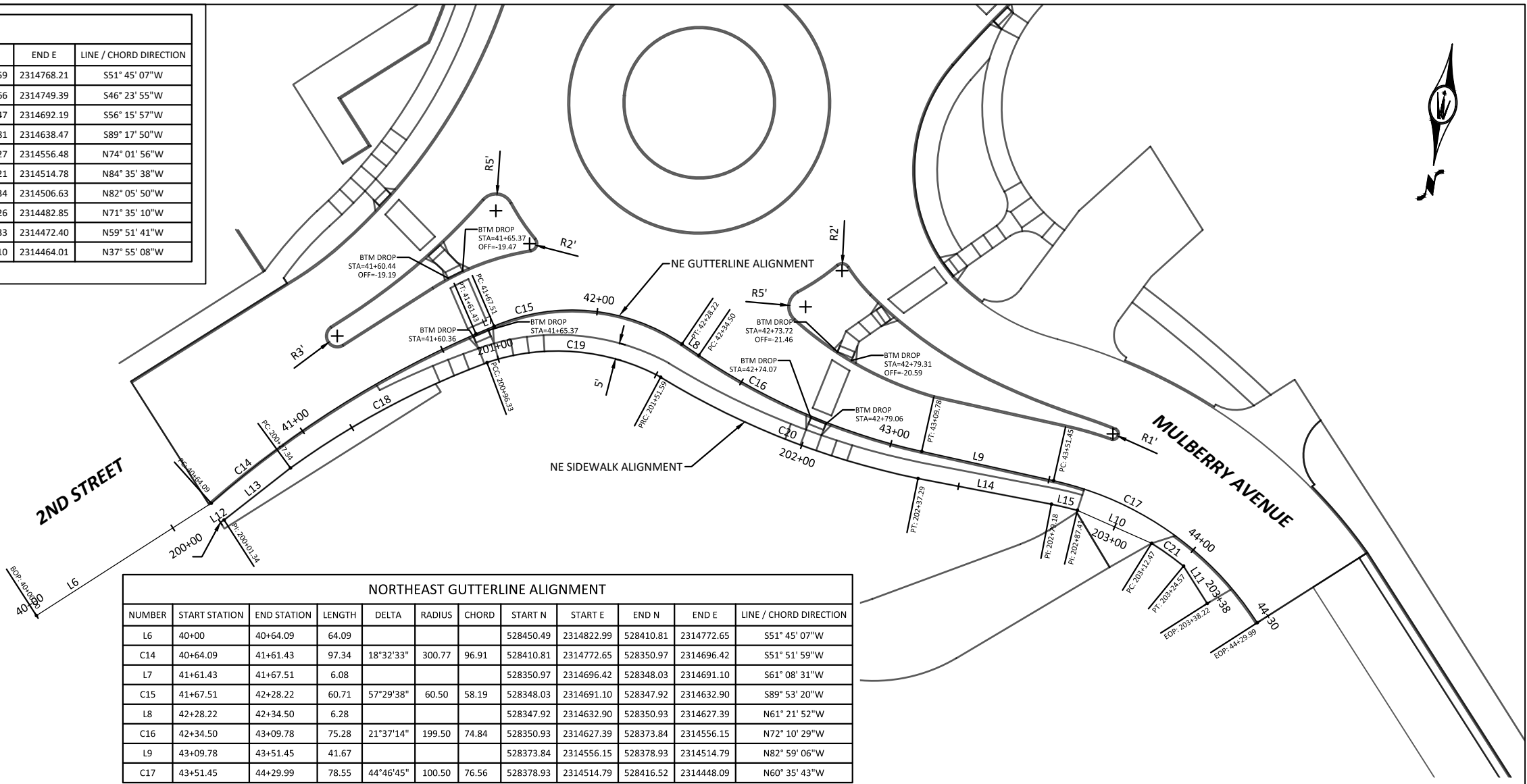
NW SIDEWALK ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L27	500+00	501+43.90	143.90				528465.92	2314346.02	528352.52	2314434.60	S37° 59' 45"E
L28	501+43.90	501+61.20	17.30				528352.52	2314434.60	528346.13	2314450.69	S68° 20' 14"E
C29	501+61.20	502+12.69	51.48	6°17'52"	468.38	51.46	528346.13	2314450.69	528316.67	2314492.88	S55° 04' 52"E
L29	502+12.69	502+42.71	30.02				528316.67	2314492.88	528301.69	2314518.90	S60° 03' 59"E
C30	502+42.71	503+24.62	81.92	100°59'22"	46.47	71.72	528301.69	2314518.90	528230.92	2314530.51	S9° 19' 09"E
L30	503+24.62	503+69.27	44.65				528230.92	2314530.51	528203.10	2314495.59	S51° 26' 56"W
L31	503+69.27	503+93.57	24.29				528203.10	2314495.59	528187.87	2314476.66	S51° 10' 25"W



NORTHWEST GUTTERLINE ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
C10	50+00	51+18.17	118.17	39°25'18"	171.74	115.85	528392.03	2314416.74	528335.35	2314517.78	S60° 42' 31"E
C11	51+18.17	51+56.34	38.17	31°47'01"	68.81	37.68	528335.35	2314517.78	528319.45	2314551.94	S65° 02' 27"E
C12	51+56.34	52+27.84	71.51	81°07'44"	50.50	65.68	528319.45	2314551.94	528254.08	2314558.36	S5° 36' 21"E
C13	52+27.84	53+09.60	81.76	16°35'13"	282.42	81.48	528254.08	2314558.36	528194.74	2314502.53	S43° 15' 07"W
L5	53+09.60	53+53.67	44.07				528194.74	2314502.53	528167.34	2314468.02	S51° 32' 49"W

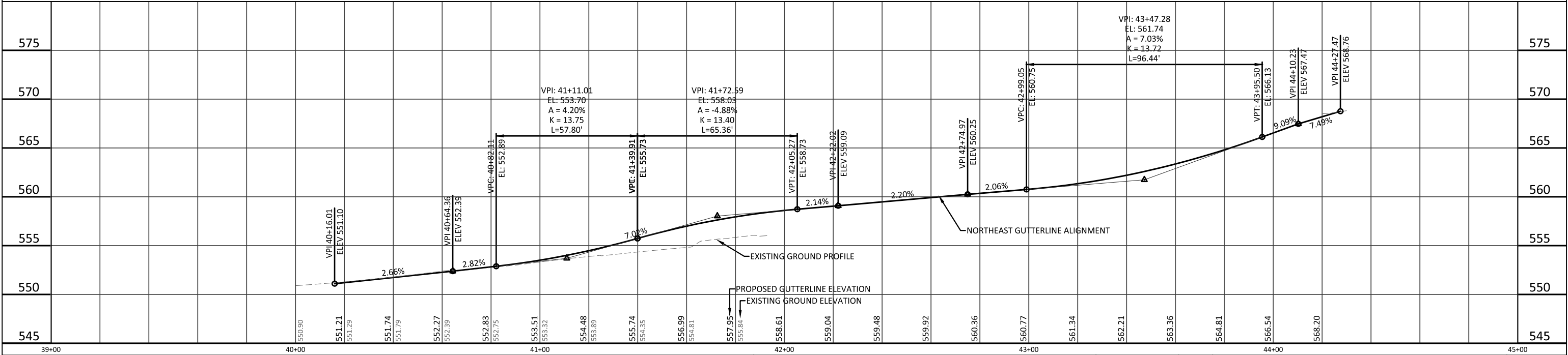


NE SIDEWALK ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L12	200+00	200+01.34	1.34				528416.42	2314769.27	528415.59	2314768.21	S51° 45' 07"W
L13	200+01.34	200+27.34	26.00				528415.59	2314768.21	528397.66	2314749.39	S46° 23' 55"W
C18	200+27.34	200+96.33	68.99	15°35'34"	253.50	68.78	528397.66	2314749.39	528359.47	2314692.19	S56° 15' 57"W
C19	200+96.33	201+51.59	55.26	46°57'02"	67.44	53.73	528359.47	2314692.19	528358.81	2314638.47	S89° 17' 50"W
C20	201+51.59	202+37.29	85.70	19°49'39"	247.66	85.28	528358.81	2314638.47	528382.27	2314556.48	N74° 01' 56"W
L14	202+37.29	202+79.18	41.88				528382.27	2314556.48	528386.21	2314514.78	N84° 35' 38"W
L15	202+79.18	202+87.41	8.24				528386.21	2314514.78	528387.34	2314506.63	N82° 05' 50"W
L10	202+87.41	203+12.47	25.06				528387.34	2314506.63	528395.26	2314482.85	N71° 35' 10"W
C21	203+12.47	203+24.57	12.09	7°36'58"	90.97	12.08	528395.26	2314482.85	528401.33	2314472.40	N59° 51' 41"W
L11	203+24.57	203+38.22	13.65				528401.33	2314472.40	528412.10	2314464.01	N37° 55' 08"W



NORTHEAST GUTTERLINE ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L6	40+00	40+64.09	64.09				528450.49	2314822.99	528410.81	2314772.65	S51° 45' 07"W
C14	40+64.09	41+61.43	97.34	18°32'33"	300.77	96.91	528410.81	2314772.65	528350.97	2314696.42	S51° 51' 59"W
L7	41+61.43	41+67.51	6.08				528350.97	2314696.42	528348.03	2314691.10	S61° 08' 31"W
C15	41+67.51	42+28.22	60.71	57°29'38"	60.50	58.19	528348.03	2314691.10	528347.92	2314632.90	S89° 53' 20"W
L8	42+28.22	42+34.50	6.28				528347.92	2314632.90	528350.93	2314627.39	N61° 21' 52"W
C16	42+34.50	43+09.78	75.28	21°37'14"	199.50	74.84	528350.93	2314627.39	528373.84	2314556.15	N72° 10' 29"W
L9	43+09.78	43+51.45	41.67				528373.84	2314556.15	528378.93	2314514.79	N82° 59' 06"W
C17	43+51.45	44+29.99	78.55	44°46'45"	100.50	76.56	528378.93	2314514.79	528416.52	2314448.09	N60° 35' 43"W

SEE DETAIL "G" ON B.03 FOR ALIGNMENT ELEVATION REFERENCE POINT



0

20

40

HORZ.

SCALE

FEET

0

5

10

VERT.

SCALE

FEET

MUSCATINE

BOLTON & MENK

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE

DESIGNED
JGS

DRAWN
JGS

CHECKED
ALH

CITY OF MUSCATINE, IOWA

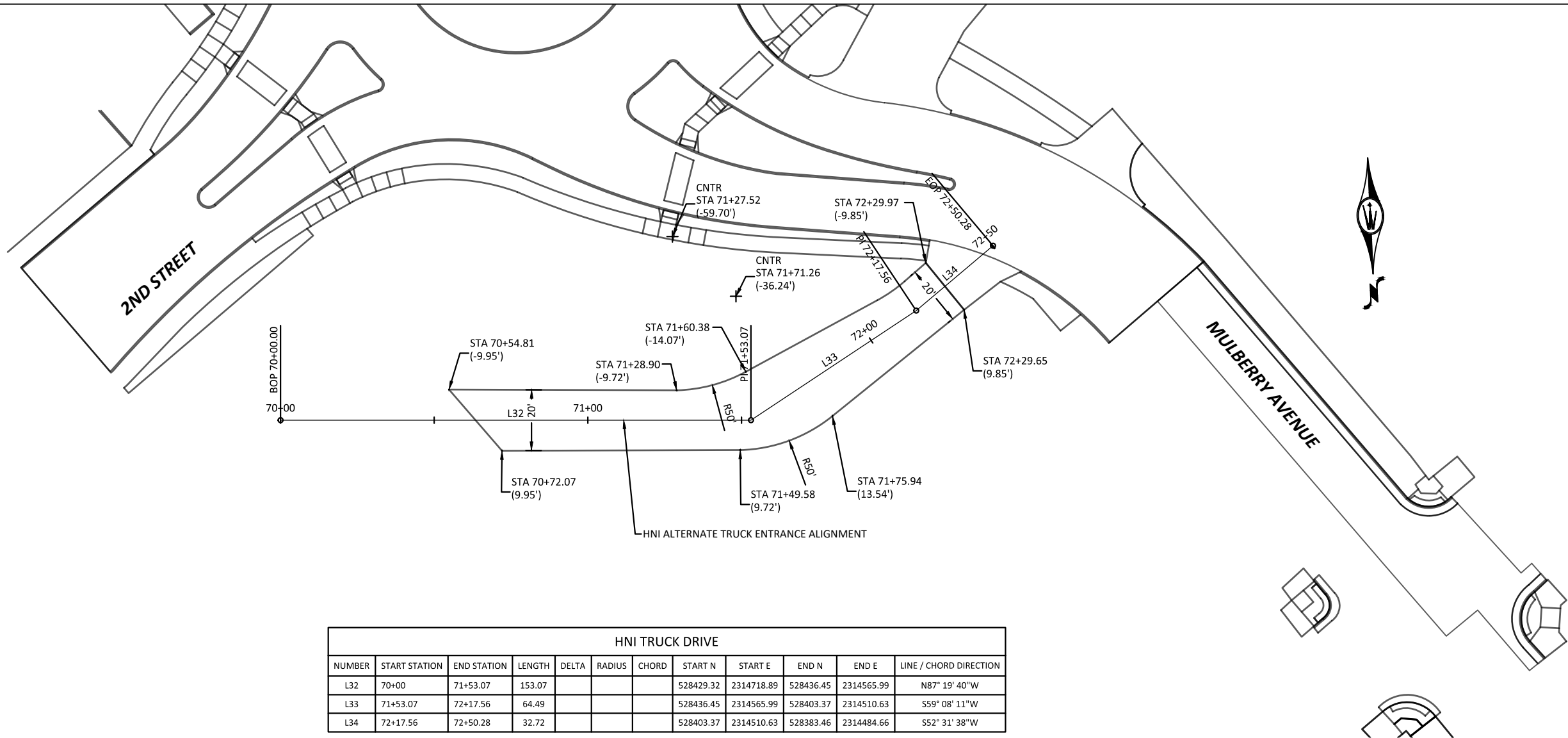
2ND & MULBERRY ROUNDABOUT

GUTTERLINE PLAN & PROFILE

SHEET

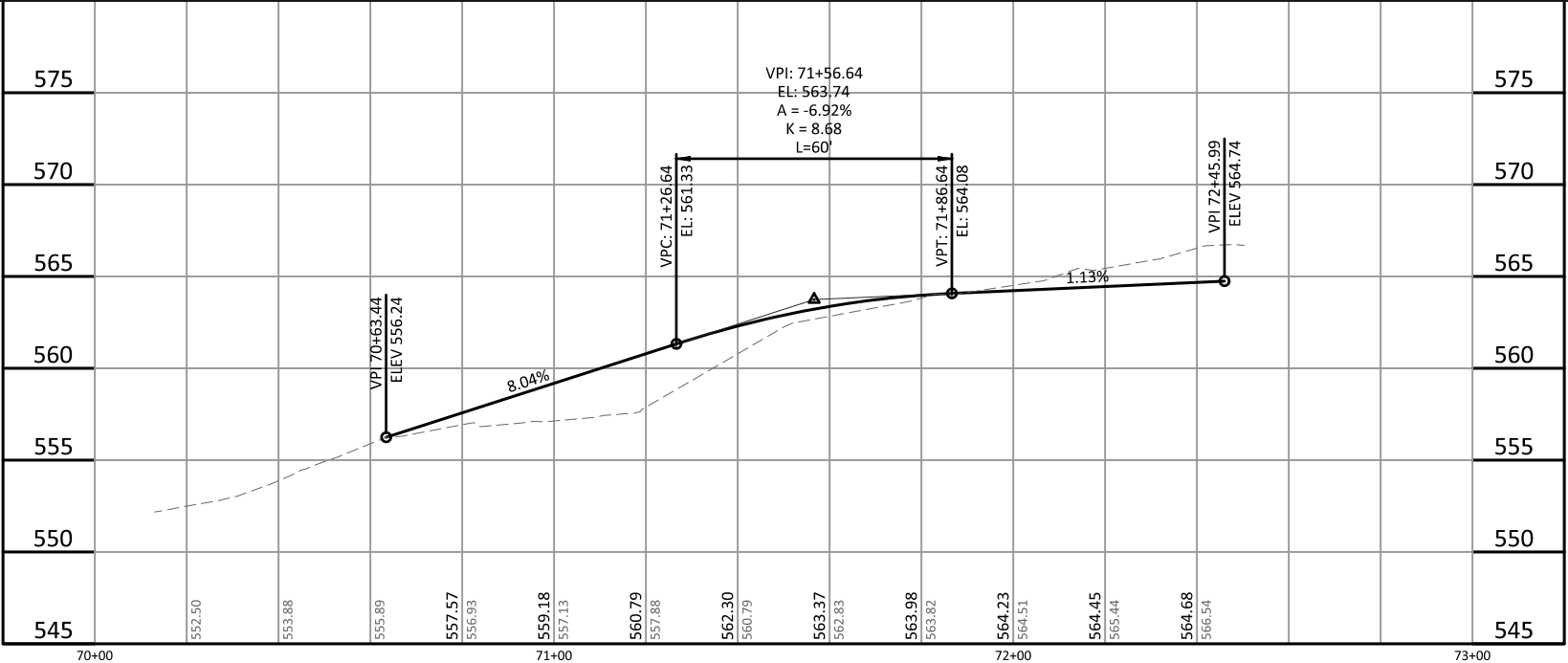
F.04

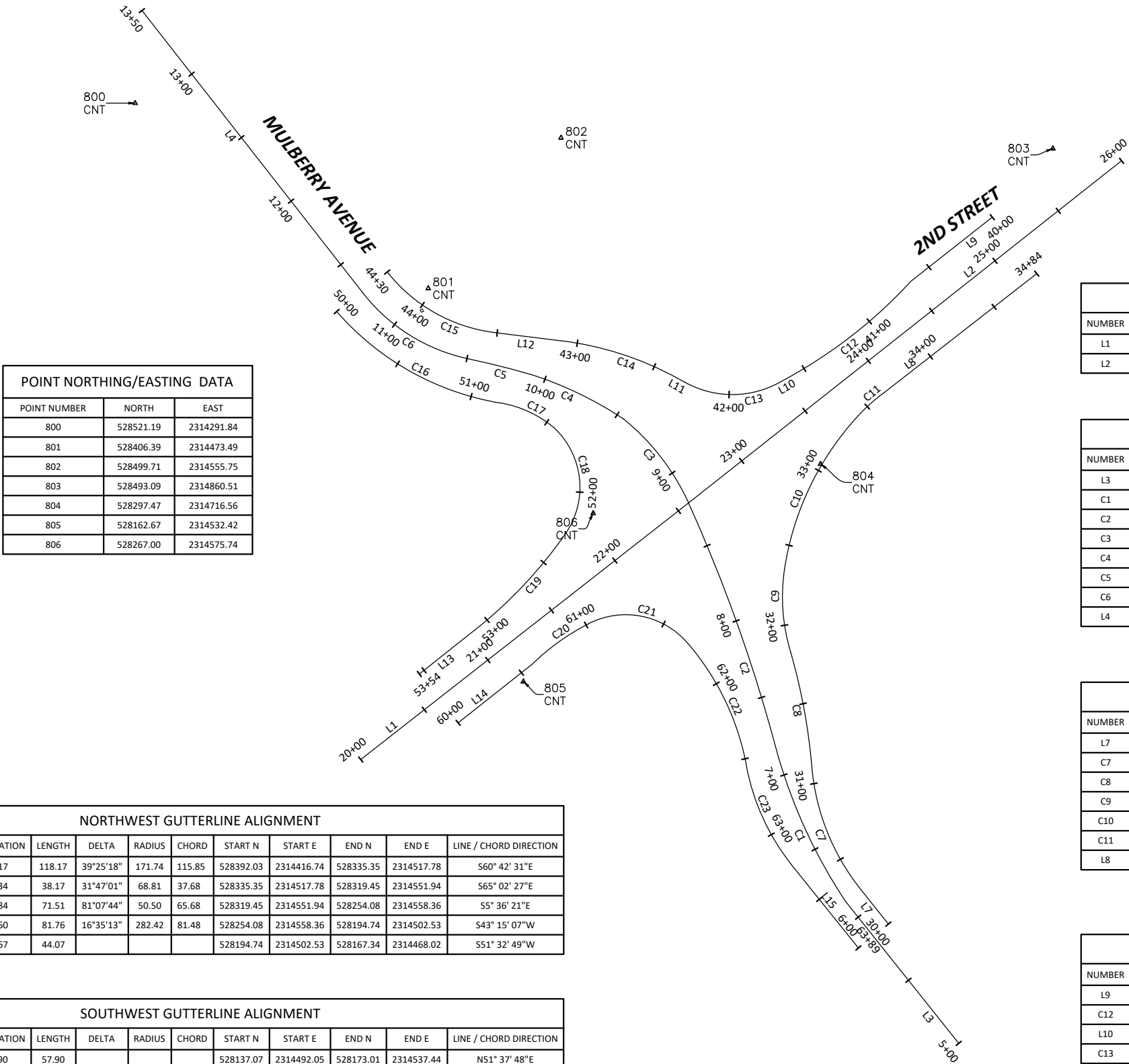
© Bolton & Menk, Inc. 2018, All Rights Reserved
H:\MUSCATIN_CI_IA\G1115855\CAD\C3D\115855F01.dwg 11/26/2018 10:29 AM



HNI TRUCK DRIVE										
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E
L32	70+00	71+53.07	153.07				528429.32	2314718.89	528436.45	2314565.99
L33	71+53.07	72+17.56	64.49				528436.45	2314565.99	528403.37	2314510.63
L34	72+17.56	72+50.28	32.72				528403.37	2314510.63	528383.46	2314484.66

SEE DETAIL "G" ON B.03 FOR ALIGNMENT ELEVATION REFERENCE POINT





POINT NORTHING/EASTING DATA		
POINT NUMBER	NORTH	EAST
800	528521.19	2314291.84
801	528406.39	2314473.49
802	528499.71	2314555.75
803	528493.09	2314860.51
804	528297.47	2314716.56
805	528162.67	2314532.42
806	528267.00	2314575.74

NORTHWEST GUTTERLINE ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
C16	50+00	51+18.17	118.17	39°25'18"	171.74	115.85	528392.03	2314416.74	528335.35	2314517.78	S60° 42' 31"E
C17	51+18.17	51+56.34	38.17	31°47'01"	68.81	37.68	528335.35	2314517.78	528319.45	2314551.94	S65° 02' 27"E
C18	51+56.34	52+27.84	71.51	81°07'44"	50.50	65.68	528319.45	2314551.94	528254.08	2314558.36	S5° 36' 21"E
C19	52+27.84	53+09.60	81.76	16°35'13"	282.42	81.48	528254.08	2314558.36	528194.74	2314502.53	S43° 15' 07"W
L13	53+09.60	53+53.67	44.07				528194.74	2314502.53	528167.34	2314468.02	S51° 32' 49"W

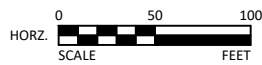
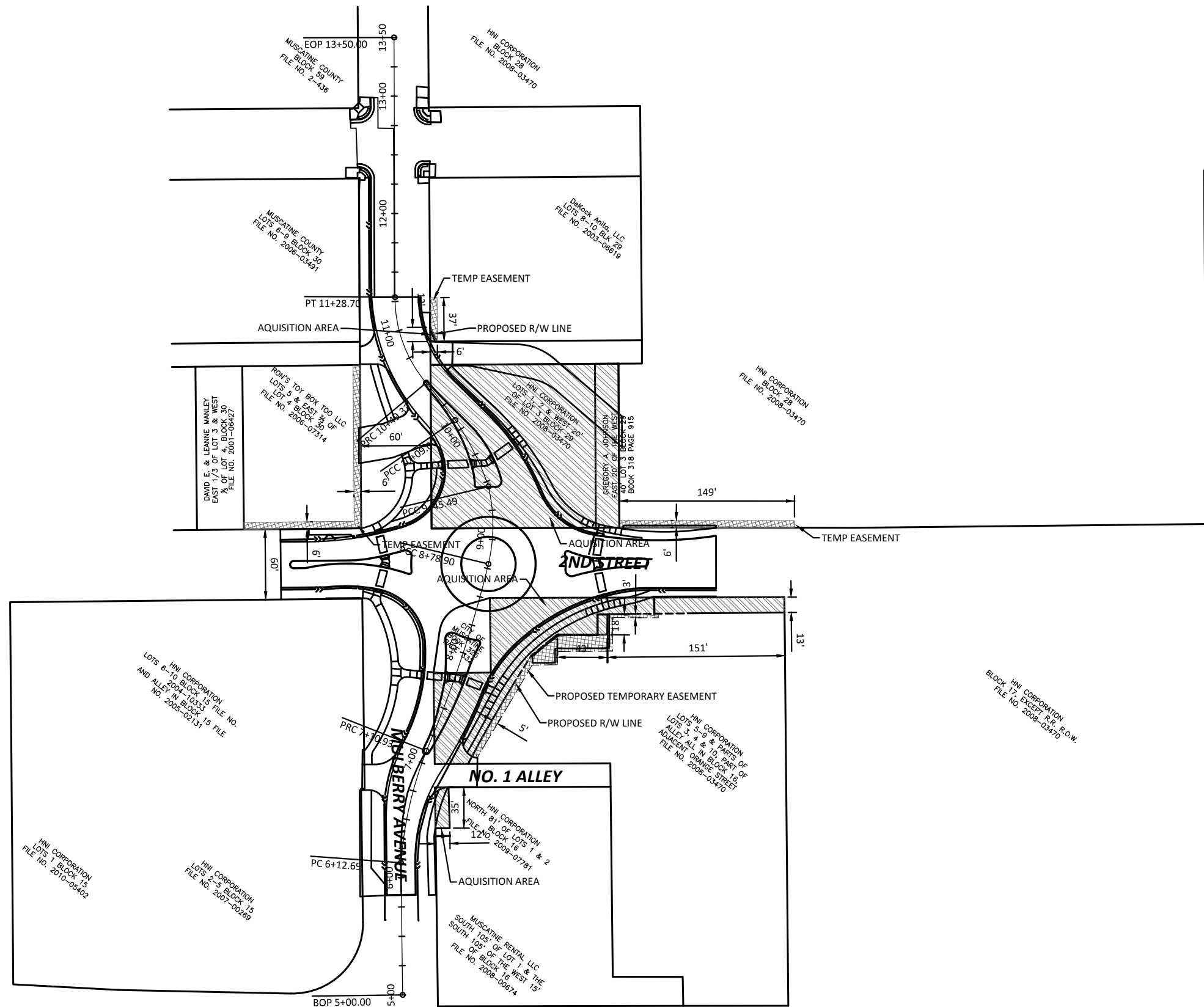
SOUTHWEST GUTTERLINE ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L14	60+00	60+57.90	57.90				528137.07	2314492.05	528173.01	2314537.44	N51° 37' 48"E
C20	60+57.90	61+01.94	44.04	17°47'14"	141.86	43.86	528173.01	2314537.44	528198.62	2314573.05	N54° 16' 28"E
C21	61+01.94	61+69.36	67.43	76°29'37"	50.50	62.53	528198.62	2314573.05	528186.25	2314634.35	S78° 34' 59"E
C22	61+69.36	62+54.70	85.34	30°19'00"	161.28	84.35	528186.25	2314634.35	528110.14	2314670.70	S25° 31' 57"E
C23	62+54.70	63+22.75	68.04	27°56'47"	139.50	67.37	528110.14	2314670.70	528048.88	2314698.75	S24° 35' 59"E
L15	63+22.75	63+88.68	65.94				528048.88	2314698.75	527997.49	2314740.05	S38° 47' 25"E

2ND STREET ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L1	20+00	22+57.96	257.96				528114.34	2314431.68	528273.38	2314634.78	N51° 56' 19"E
L2	22+57.96	26+00	342.04				528273.38	2314634.78	528485.46	2314903.14	N51° 40' 52"E

MULBERRY AVENUE ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L3	5+00	6+12.69	112.69				527938.36	2314802.24	528026.46	2314731.98	N38° 34' 23"W
C1	6+12.69	7+10.93	98.24	17°22'27"	323.97	97.86	528026.46	2314731.98	528115.17	2314690.65	N24° 58' 40"W
C2	7+10.93	8+78.90	167.98	9°34'29"	1005.16	167.78	528115.17	2314690.65	528273.38	2314634.78	N19° 27' 01"W
C3	8+78.90	9+45.49	66.59	26°28'54"	144.08	66.00	528273.38	2314634.78	528325.50	2314594.30	N37° 49' 59"W
C4	9+45.49	10+09	63.51	15°49'21"	229.98	63.31	528325.50	2314594.30	528352.94	2314537.25	N64° 18' 53"W
C5	10+09	10+49.33	40.33	4°06'33"	562.29	40.32	528352.94	2314537.25	528362.76	2314498.14	N75° 54' 23"W
C6	10+49.33	11+28.70	79.37	40°28'16"	112.36	77.73	528362.76	2314498.14	528404.27	2314432.42	N57° 43' 31"W
L4	11+28.70	13+50	221.30				528404.27	2314432.42	528578.59	2314296.09	N38° 01' 40"W

SOUTHEAST GUTTERLINE ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L7	30+00	30+27.69	27.69				528012.30	2314758.62	528033.94	2314741.36	N38° 34' 23"W
C7	30+27.69	31+10.43	82.74	33°44'35"	140.50	81.55	528033.94	2314741.36	528109.72	2314711.20	N21° 42' 05"W
C8	31+10.43	31+82.57	72.14	11°14'47"	367.51	72.02	528109.72	2314711.20	528180.54	2314698.13	N10° 27' 11"W
C9	31+82.57	32+34.96	52.39	25°41'19"	116.86	51.96	528180.54	2314698.13	528232.35	2314694.22	N4° 18' 58"W
C10	32+34.96	33+41.97	107.01	34°05'21"	179.86	105.44	528232.35	2314694.22	528327.40	2314739.88	N25° 39' 21"E
C11	33+41.97	33+63.07	21.10	11°04'05"	109.24	21.07	528327.40	2314739.88	528341.45	2314755.57	N48° 10' 00"E
L8	33+63.07	34+83.54	120.46				528341.45	2314755.57	528415.53	2314850.57	N52° 03' 02"E

NORTHEAST GUTTERLINE ALIGNMENT											
NUMBER	START STATION	END STATION	LENGTH	DELTA	RADIUS	CHORD	START N	START E	END N	END E	LINE / CHORD DIRECTION
L9	40+00	40+64.09	64.09				528450.49	2314822.99	528410.81	2314772.65	S51° 45' 07"W
C12	40+64.09	41+61.43	97.34	18°32'33"	300.77	96.91	528410.81	2314772.65	528350.97	2314696.42	S51° 51' 59"W
L10	41+61.43	41+67.51	6.08				528350.97	2314696.42	528348.03	2314691.10	S61° 08' 31"W
C13	41+67.51	42+28.22	60.71	57°29'38"	60.50	58.19	528348.03	2314691.10	528347.92	2314632.90	S89° 53' 20"W
L11	42+28.22	42+34.50	6.28				528347.92	2314632.90	528350.93	2314627.39	N61° 21' 52"W
C14	42+34.50	43+09.78	75.28	21°37'14"	199.50	74.84	528350.93	2314627.39	528373.84	2314556.15	N72° 10' 29"W
L12	43+09.78	43+51.45	41.67				528373.84	2314556.15	528378.93	2314514.79	N82° 59' 06"W
C15	43+51.45	44+29.99	78.55	44°46'45"	100.50	76.56	528378.93	2314514.79	528416.52	2314448.09	N60° 35' 43"W



© Bolton & Menk, Inc. 2018, All Rights Reserved
H:\MUSCATIN_CI_IA\G1115855\CAD\C3D\115855H01.dwg 11/20/2018 11:15 AM



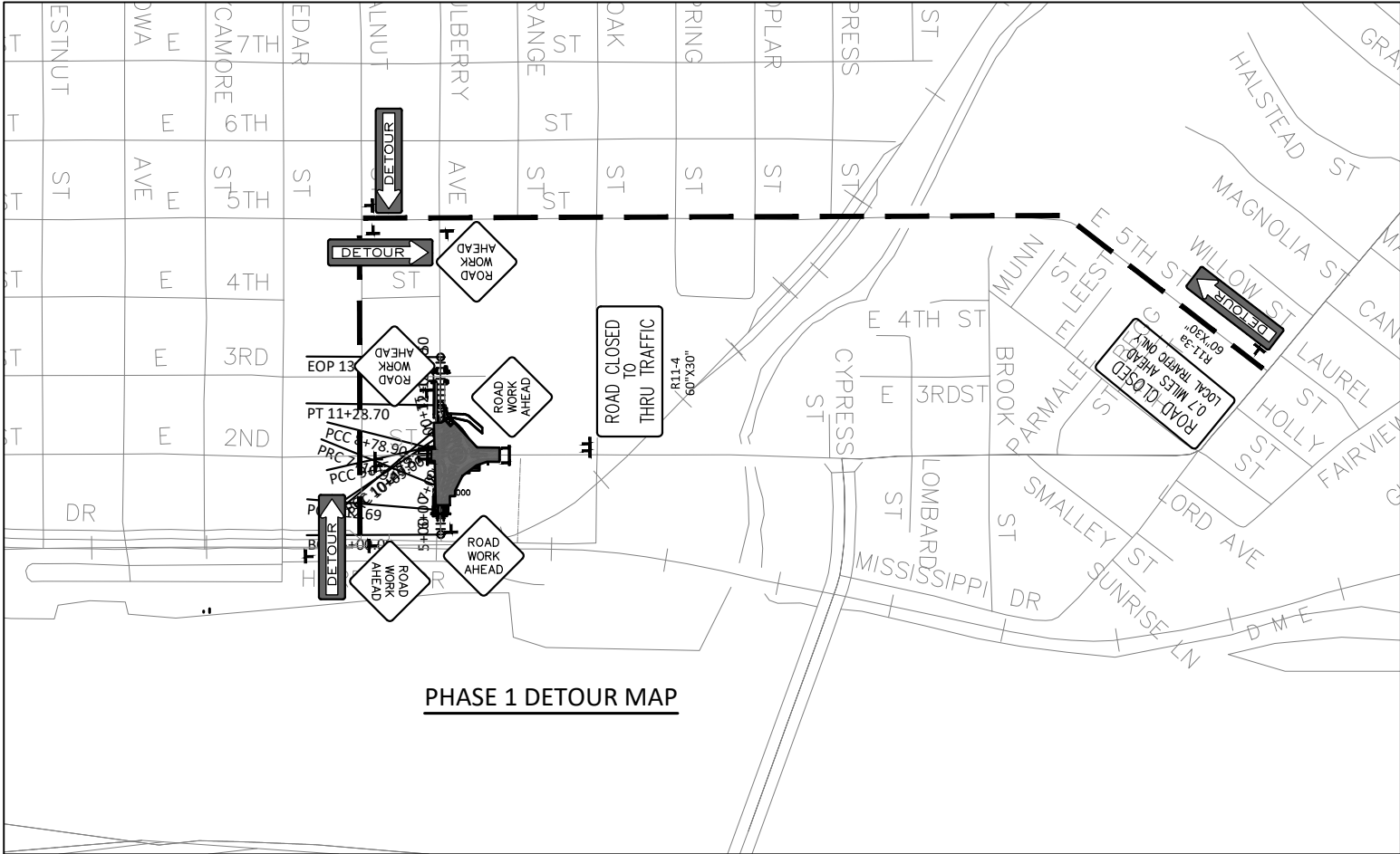
**BOLTON
& MENK**

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

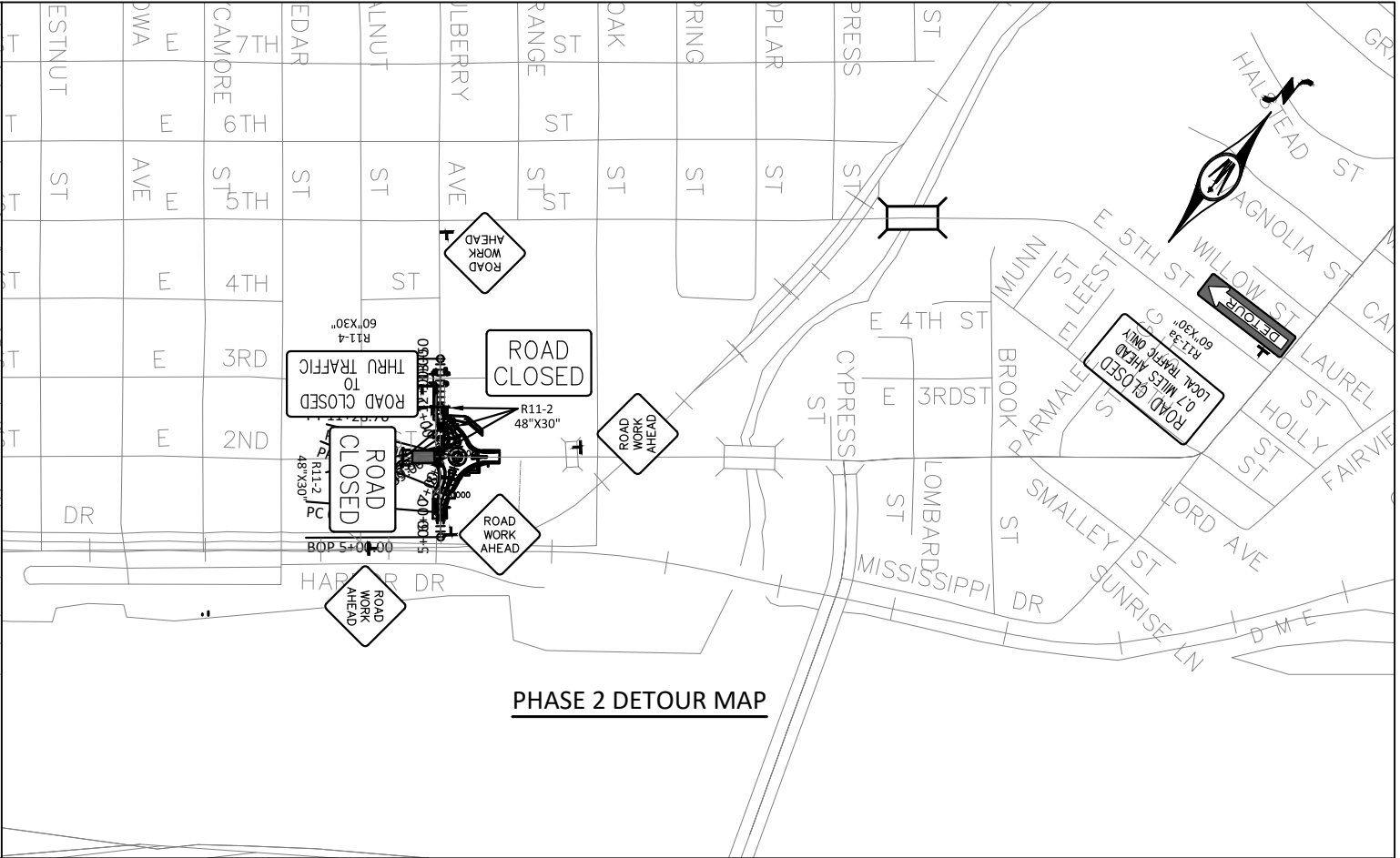
REV	ISSUED FOR	DATE	DESIGNED
			JGS
REV	ISSUED FOR	DATE	DRAWN
			JGS
REV	ISSUED FOR	DATE	CHECKED
			ALH

CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
RIGHT OF WAY

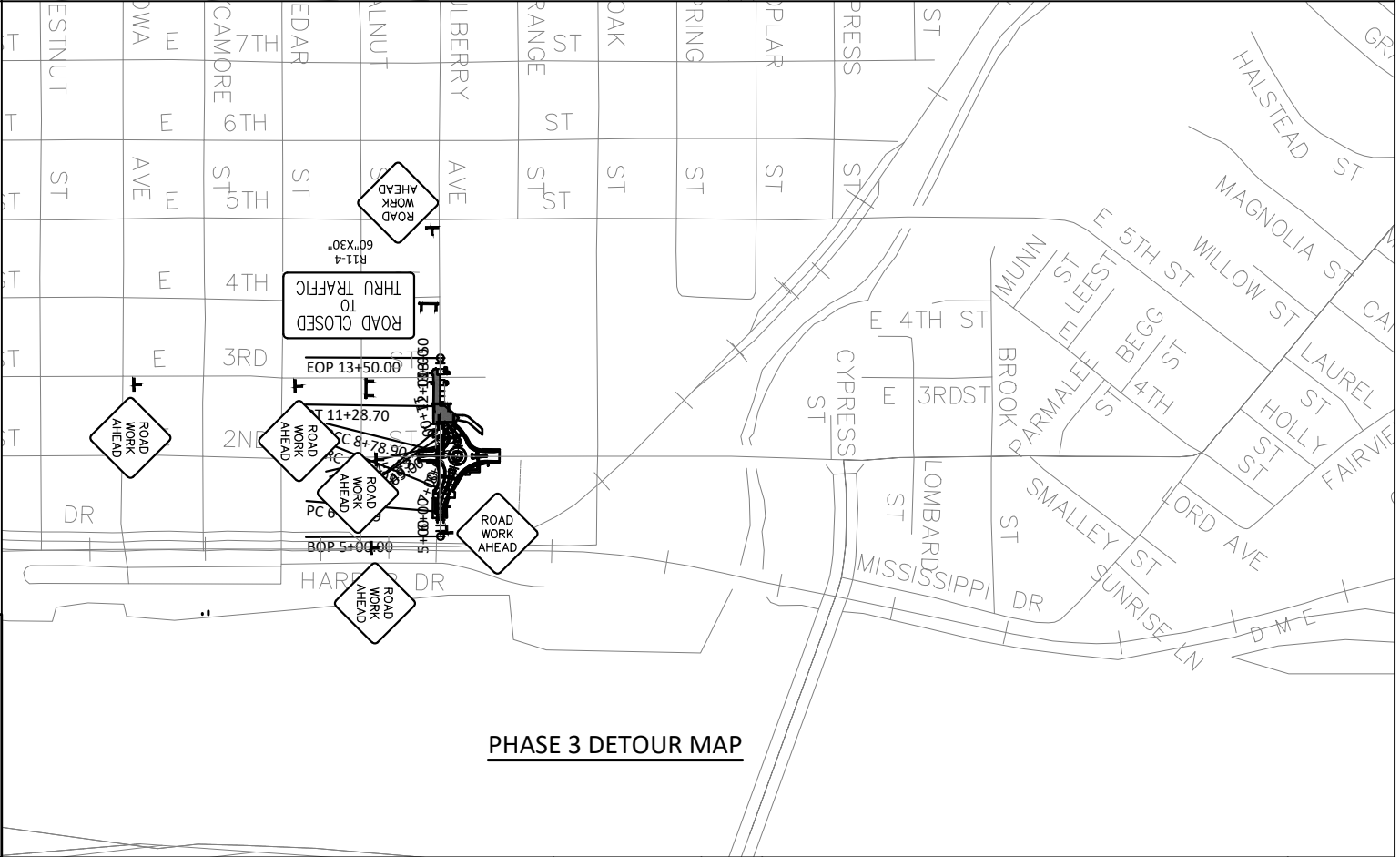
SHEET
H.01



PHASE 1 DETOUR MAP



PHASE 2 DETOUR MAP



PHASE 3 DETOUR MAP

- PHASE 1 NOTES:**
1. CONTRACTOR TO DETOUR ALL TRAFFIC AND CONSTRUCT SOUTH AND EAST LEGS OF ROUNDABOUT.
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO GREAT RIVER TIRE PARKING LOT VIA 2ND ST AT ALL TIMES.
 3. CONTRACTOR SHALL MAINTAIN ACCESS TO DEKOCK LAW OFFICE VIA MULBERRY AVE AT ALL TIMES .
- PHASE 2 NOTES:**
1. CONTRACTOR TO DETOUR TRAFFIC ON 2ND STREET AND MULBERRY AVENUE TO CONSTRUCT WEST LEG OF ROUNDABOUT.
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO GREAT RIVER TIRE PARKING LOT VIA MULBERRY AVE AT ALL TIMES.
 3. CONTRACTOR SHALL MAINTAIN ACCESS TO DEKOCK LAW OFFICE VIA MULBERRY AVE AT ALL TIMES.
- PHASE 3 NOTES:**
1. CONTRACTOR TO DETOUR TRAFFIC ON MULBERRY AVENUE TO CONSTRUCT NORTH LEG OF ROUNDABOUT AND EXTEND UTILITIES TO MULBERRY AVE AND 3RD ST INTERSECTION.
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO GREAT RIVER TIRE PARKING LOT VIA 2ND ST AT ALL TIMES.
 3. CONTRACTOR SHALL MAINTAIN ACCESS TO DEKOCK LAW OFFICE VIA MULBERRY AT ALL TIMES

- GENERAL STAGING NOTES:**
1. ALL PROJECT TRAFFIC CONTROL SHALL BE INSTALLED ACCORDING TO THE CURRENT VERSION OF THE MUTCD. SUBMIT TRAFFIC CONTROL PLAN PRIOR TO COMMENCEMENT OF WORK.
 2. THE ITEM "TRAFFIC CONTROL" COVERS ALL DEVICES SHOWN ON THE PLAN SHEETS AND OTHER SETUPS REQUIRED BY THE CONTRACTORS OPERATIONS.
 3. CHANGES TO THE TRAFFIC CONTROL AND STAGING PLAN SHALL BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION. (48 HOUR ADVANCED NOTICE IS REQUIRED, STREET CLOSURES MUST BE APPROVED BY CITY COUNCIL IF DIFFERENT THAN SHOWN.
 4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO BUSINESSES AND RESIDENCES AT ALL TIMES DURING CONSTRUCTION.
 5. PRIOR TO A STAGE OPENING TO TRAFFIC, THE CONTRACTOR SHALL BE SUBSTANTIALLY COMPLETE FOR THE STAGE. FINAL SIGNING AND PAVEMENT MARKINGS ARE REQUIRED TO BE INSTALLED TO OPEN TO TRAFFIC.
 6. A STAGE MUST BE SUBSTANTIALLY COMPLETE PRIOR TO THE NEXT STAGE STARTING.
 7. CONTRACTOR SHALL MAINTAIN ACCESS TO SOUTH AND WEST HNI LOADING DOCKS AT ALL TIMES THROUGHOUT CONSTRUCTION.

- INCIDENTAL TO TRAFFIC CONTROL**
1. TEMPORARY ACCESS TO BUSINESSES AND RESIDENTS AS NOTED IN THE STAGING PLANS.
 2. SIGNAGE DIRECTING TRAFFIC TO OPEN BUSINESSES. INCLUDES MAIN SIGN STATING "BUSINESSES OPEN" WITH ADDITIONAL SIGNS STATING BUSINESSES NAMES.
 3. SIGN MAINTENANCE AND REPAIR TO BE INCIDENTAL TO TRAFFIC CONTROL.

LEGEND:

- DETOUR ROUTE
- - - THROUGH TRAFFIC ROUTE
- + TYPE A SIGN
- + TYPE 3 BARRICADE WITH ROAD CLOSED TO THRU TRAFFIC SIGN
- + ROAD CLOSURE WITH ROAD CLOSED SIGN

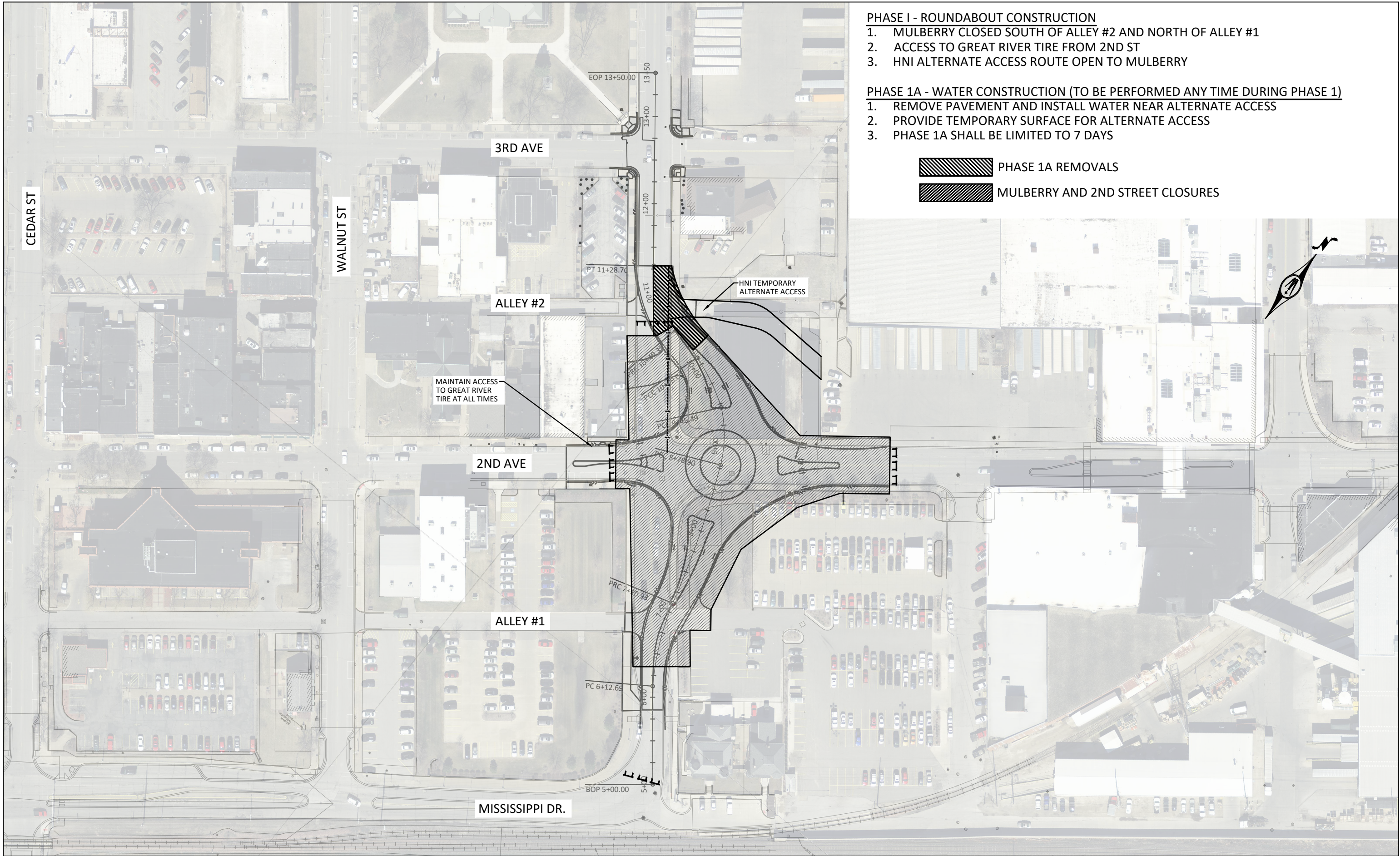


855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED
			RWW
			DRAWN
			RWW
			CHECKED
			ALH

CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
NOTES AND DETOUR MAPS

SHEET
J.01



PHASE I - ROUNDABOUT CONSTRUCTION

1. MULBERRY CLOSED SOUTH OF ALLEY #2 AND NORTH OF ALLEY #1
2. ACCESS TO GREAT RIVER TIRE FROM 2ND ST
3. HNI ALTERNATE ACCESS ROUTE OPEN TO MULBERRY

PHASE 1A - WATER CONSTRUCTION (TO BE PERFORMED ANY TIME DURING PHASE 1)

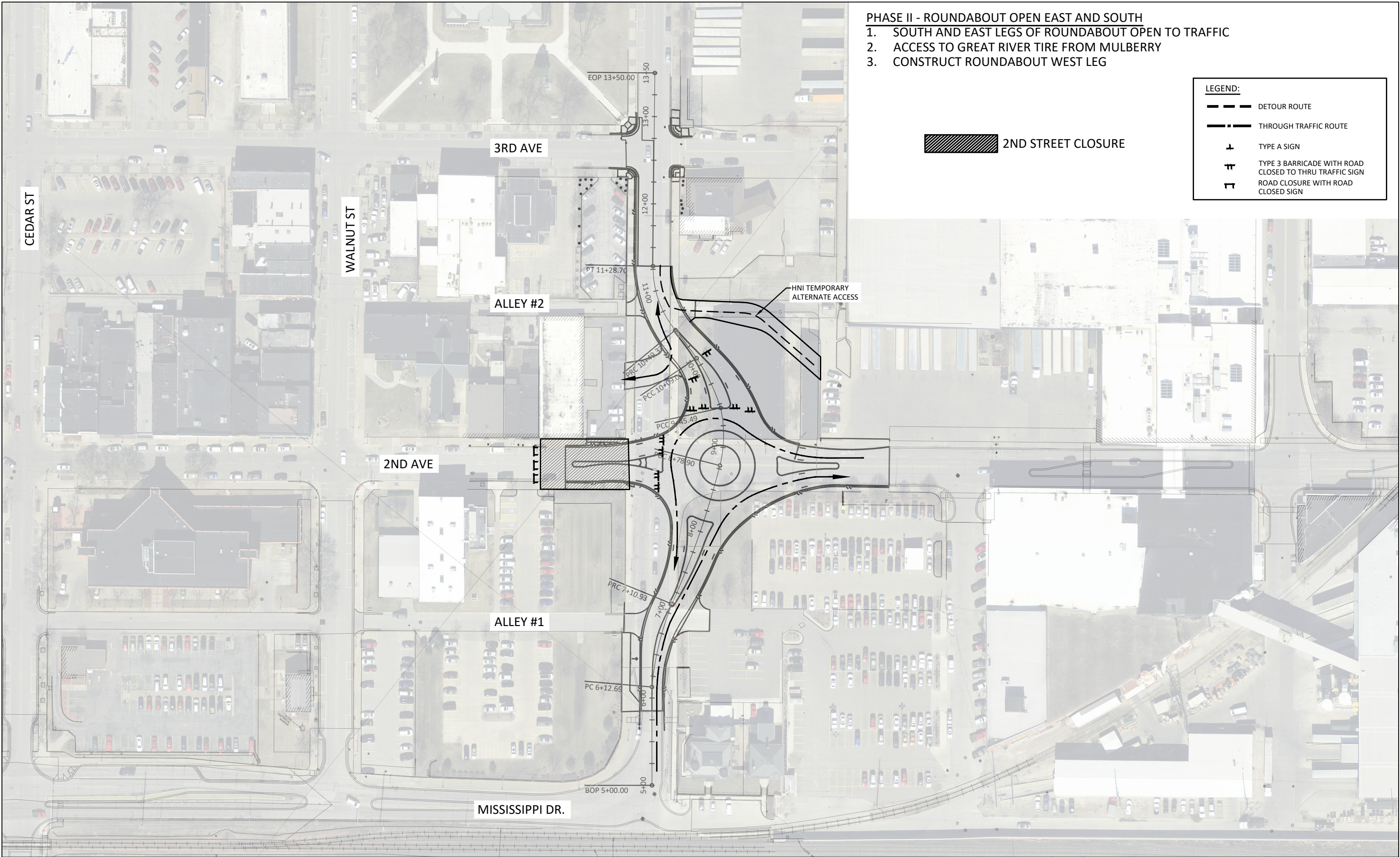
1. REMOVE PAVEMENT AND INSTALL WATER NEAR ALTERNATE ACCESS
2. PROVIDE TEMPORARY SURFACE FOR ALTERNATE ACCESS
3. PHASE 1A SHALL BE LIMITED TO 7 DAYS



PHASE 1A REMOVALS



MULBERRY AND 2ND STREET CLOSURES

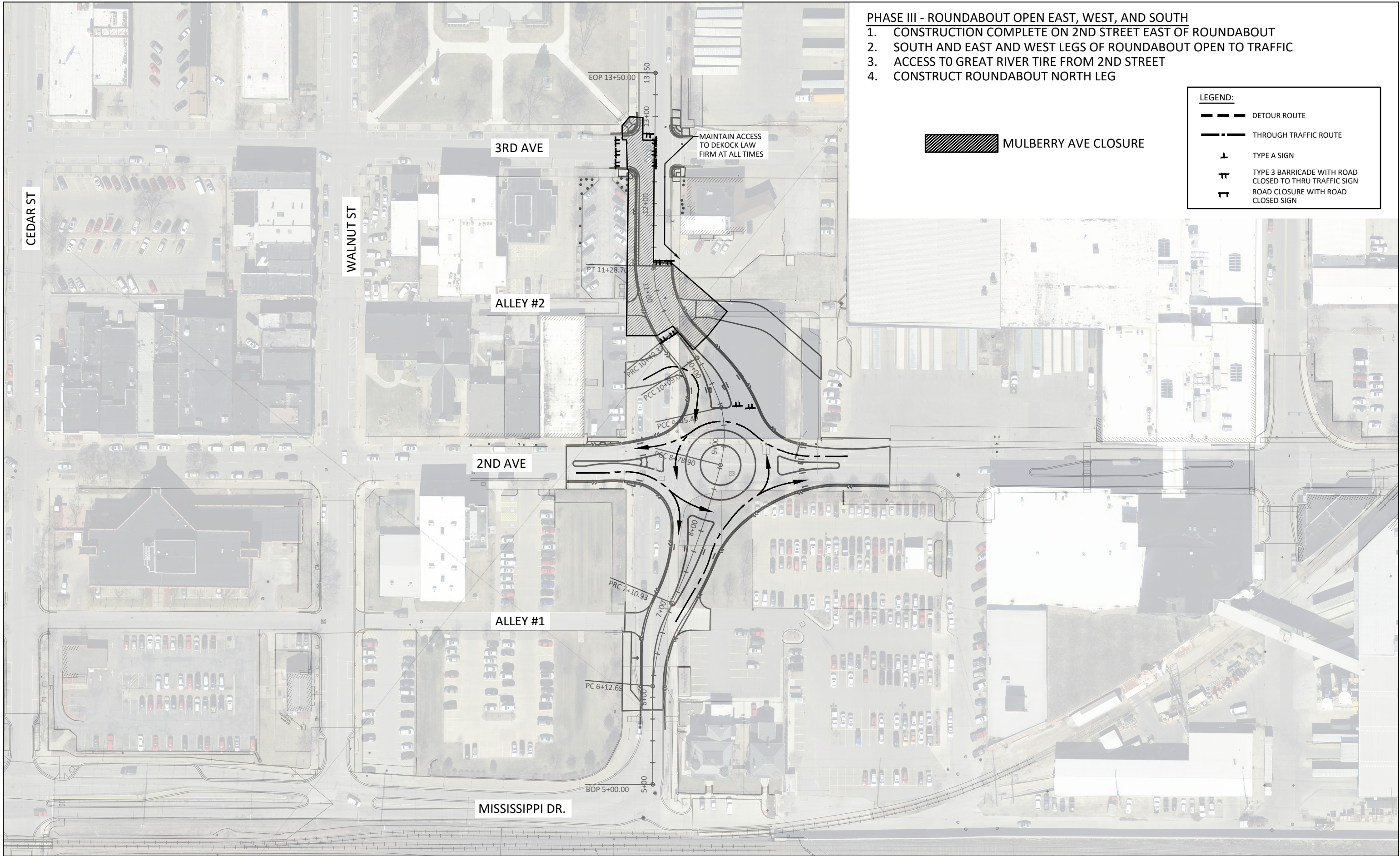


- PHASE II - ROUNDABOUT OPEN EAST AND SOUTH
1. SOUTH AND EAST LEGS OF ROUNDABOUT OPEN TO TRAFFIC
 2. ACCESS TO GREAT RIVER TIRE FROM MULBERRY
 3. CONSTRUCT ROUNDABOUT WEST LEG

LEGEND:

- DETOUR ROUTE
- - - THROUGH TRAFFIC ROUTE
- + TYPE A SIGN
- ≡ TYPE 3 BARRICADE WITH ROAD CLOSED TO THRU TRAFFIC SIGN
- ⌋ ROAD CLOSURE WITH ROAD CLOSED SIGN

 2ND STREET CLOSURE








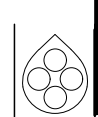
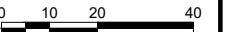
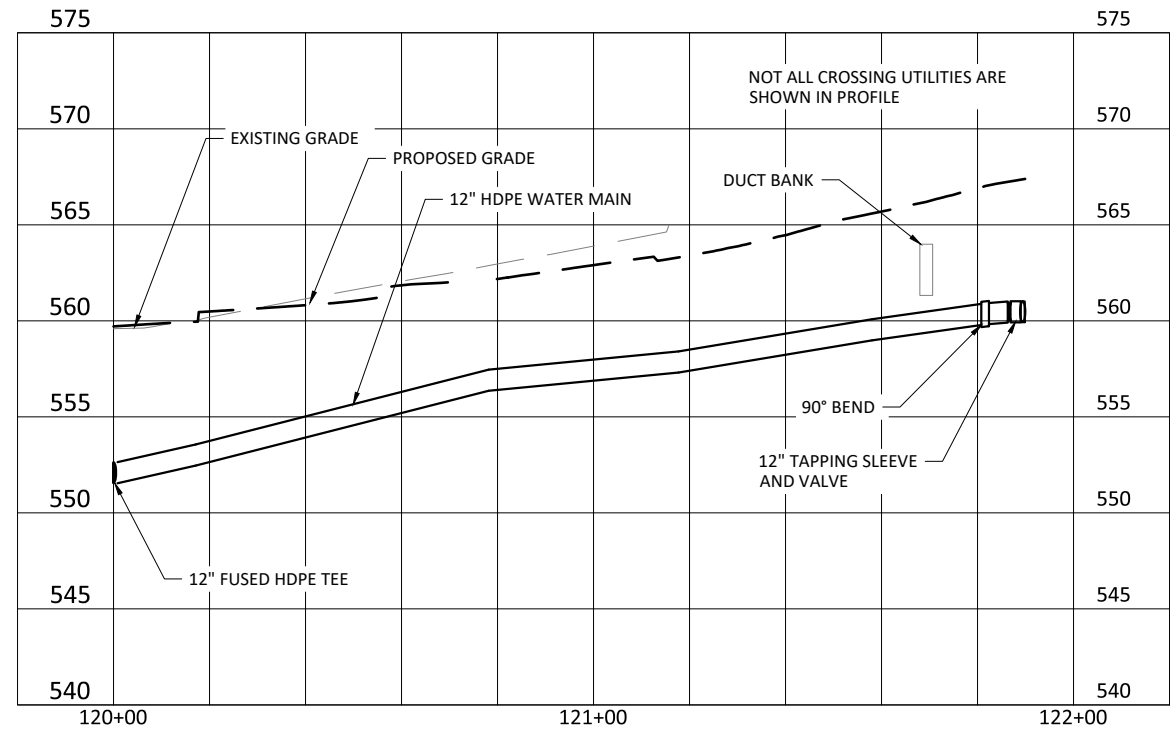
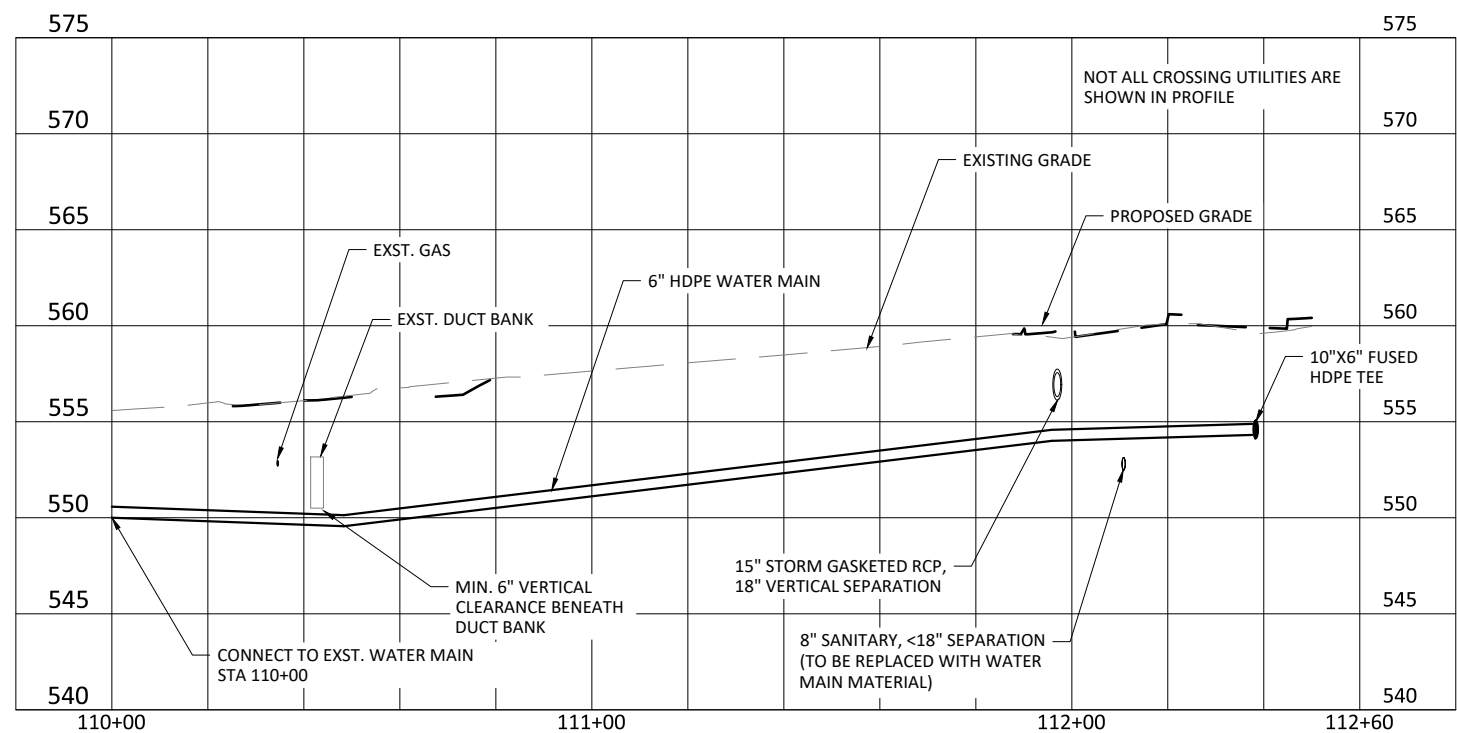
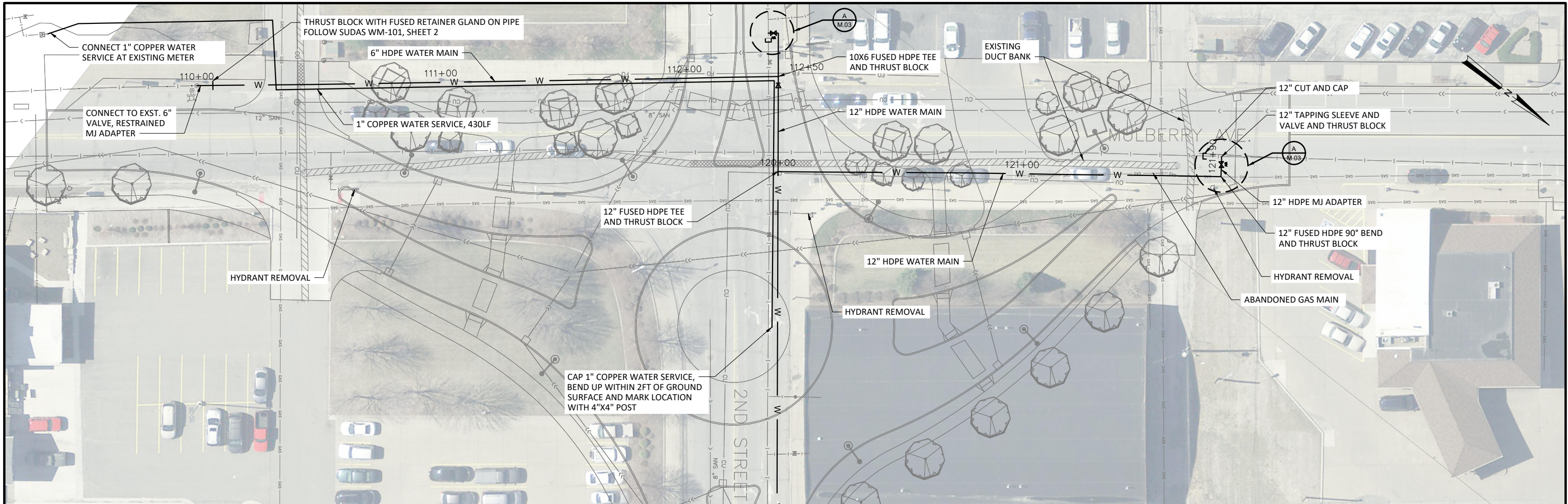
PHASE III - ROUNDABOUT OPEN EAST, WEST, AND SOUTH

1. CONSTRUCTION COMPLETE ON 2ND STREET EAST OF ROUNDABOUT
2. SOUTH AND EAST AND WEST LEGS OF ROUNDABOUT OPEN TO TRAFFIC
3. ACCESS TO GREAT RIVER TIRE FROM 2ND STREET
4. CONSTRUCT ROUNDABOUT NORTH LEG

 MULBERRY AVE CLOSURE

LEGEND:

-  DETOUR ROUTE
-  THROUGH TRAFFIC ROUTE
-  TYPE A SIGN
-  TYPE 3 BARRICADE WITH ROAD CLOSED TO THRU TRAFFIC SIGN
-  ROAD CLOSURE WITH ROAD CLOSED SIGN



MUSCATINE POWER & WATER

WATERSMITH
ENGINEERING



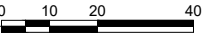
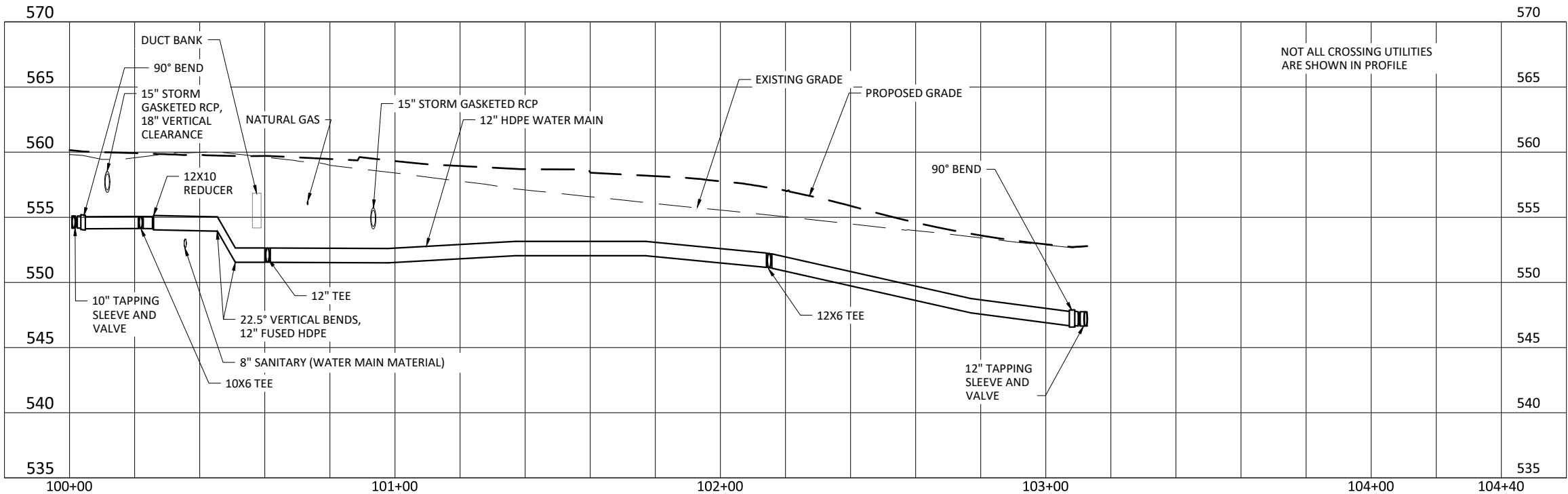
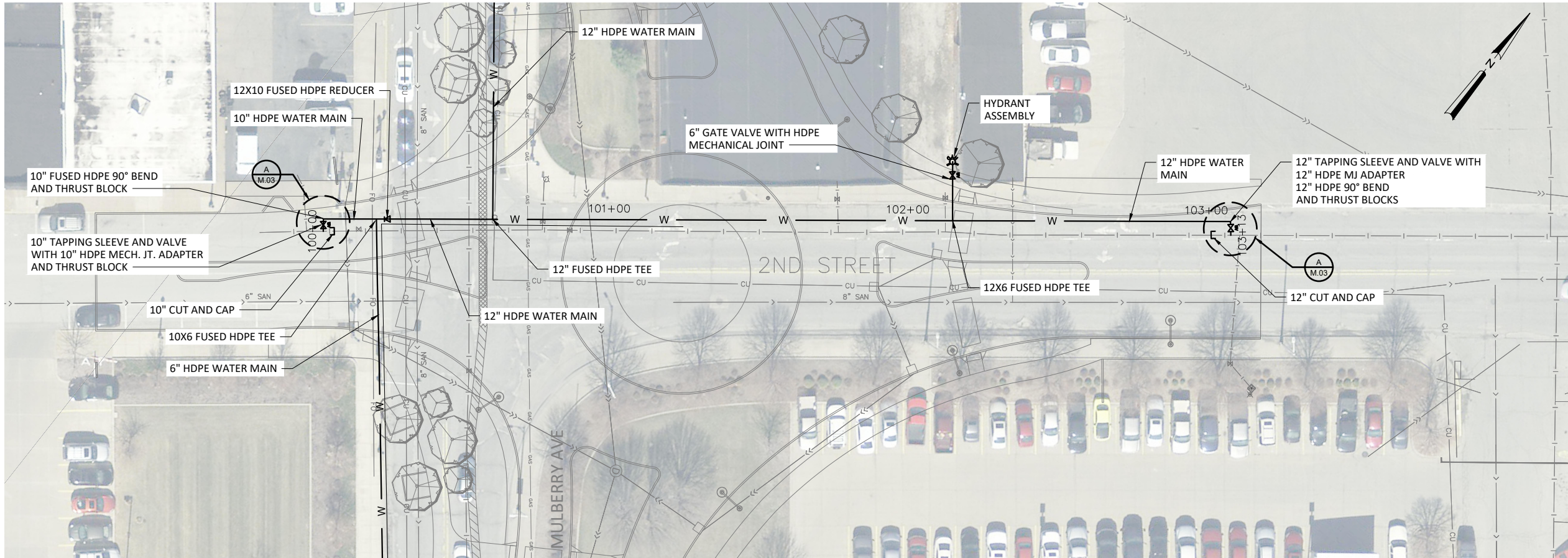
BOLTON & MENK

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED
0	FOR BIDS	11/21/18	BWR
			DRAWN NV
			CHECKED BWR

CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
WATER UTILITIES

SHEET
M.01



855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE
0	FOR BIDS	11/21/18

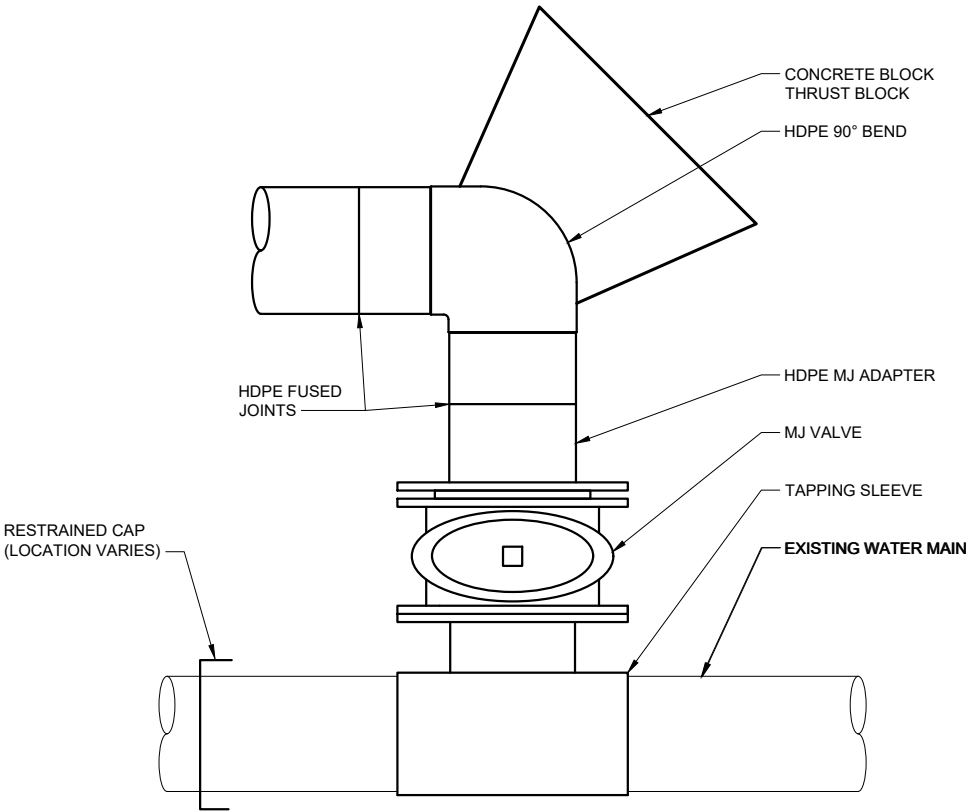
DESIGNED BWR
DRAWN NV
CHECKED BWR

CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
WATER UTILITIES

SHEET
M.02

WATER MAIN PHASING PLAN

- 1. THE FOLLOWING IS A SUGGESTED PHASING PLAN. CONTRACTOR IS REQUIRED TO DEVELOP A CONSTRUCTION SEQUENCE THAT MAINTAINS CUSTOMER SERVICE THROUGHOUT PROJECT WITHIN ALLOWABLE SERVICE DISRUPTIONS. CONTRACTOR SHALL COORDINATE PROPOSED PHASING PLAN WITH OWNER.
- 2. CONSTRUCT WATER MAINS WITHIN PHASE 1 AND 1A OF ROUNDABOUT CONSTRUCTION.
- 3. DISINFECT, FLUSH, AND TEST WATER MAIN. THE INTENT IS TO PRESSURE TEST ALL NEW WATER MAINS AS ONE UNIT. BACTERIA TESTING BY MPW.
- 4. REMOVE HYDRANTS INDICATED ON PLANS
- 5. CUT AND CAP WATER MAIN AT LOCATIONS INDICATED.



A TAPPING SLEEVE TYPICAL DETAIL
SCALE: NONE

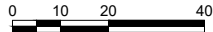
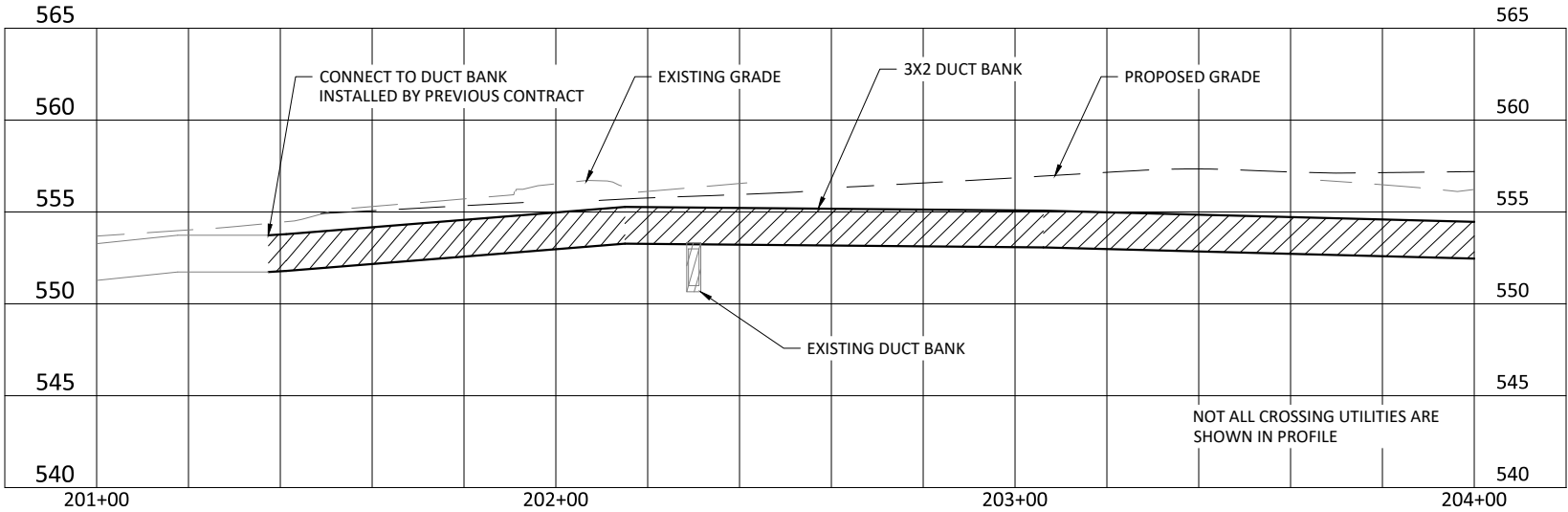
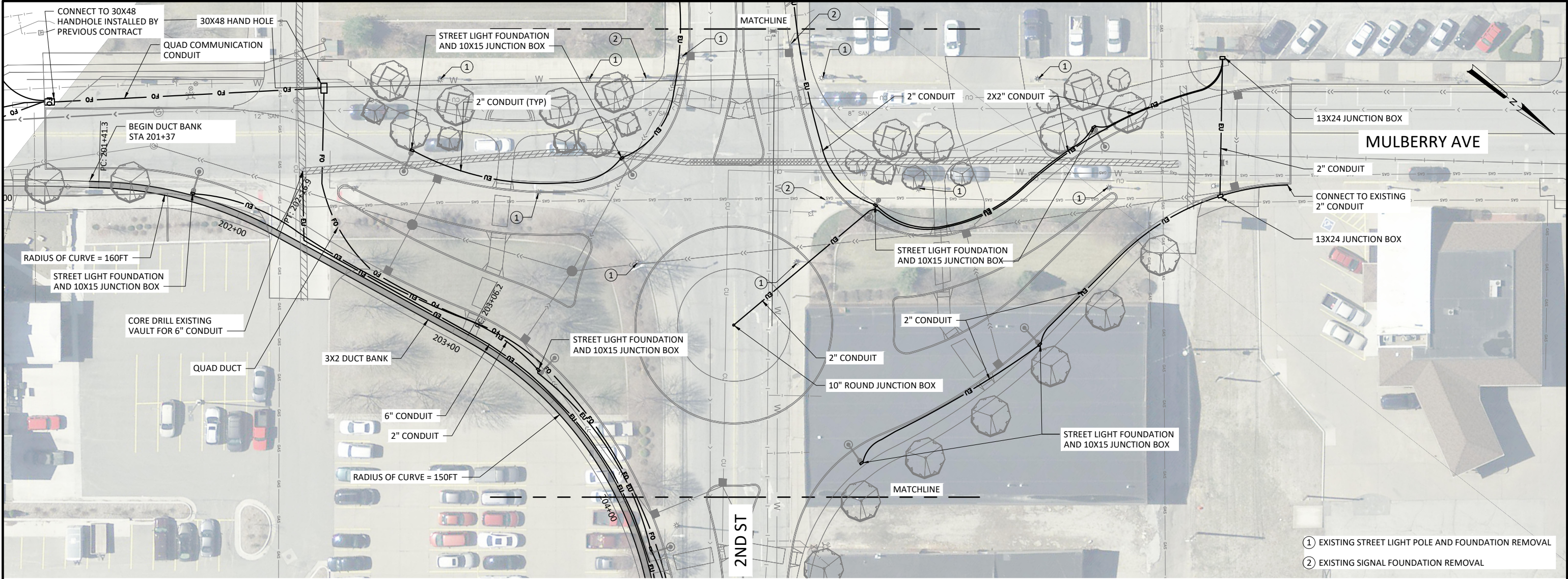


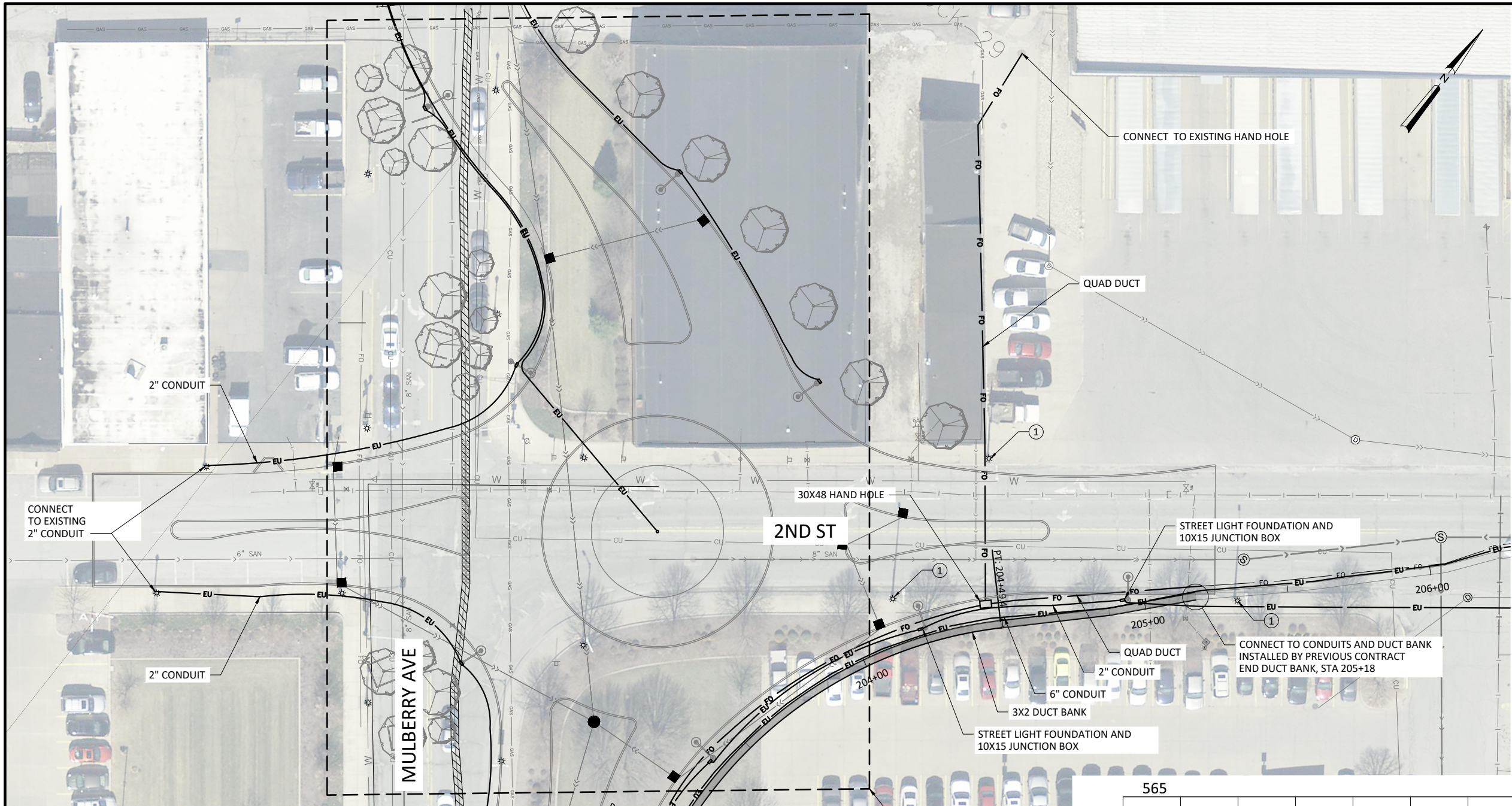
REV	ISSUED FOR	DATE
0	FOR BIDS	11/21/18

DESIGNED
BWR
DRAWN
NV
CHECKED
BWR

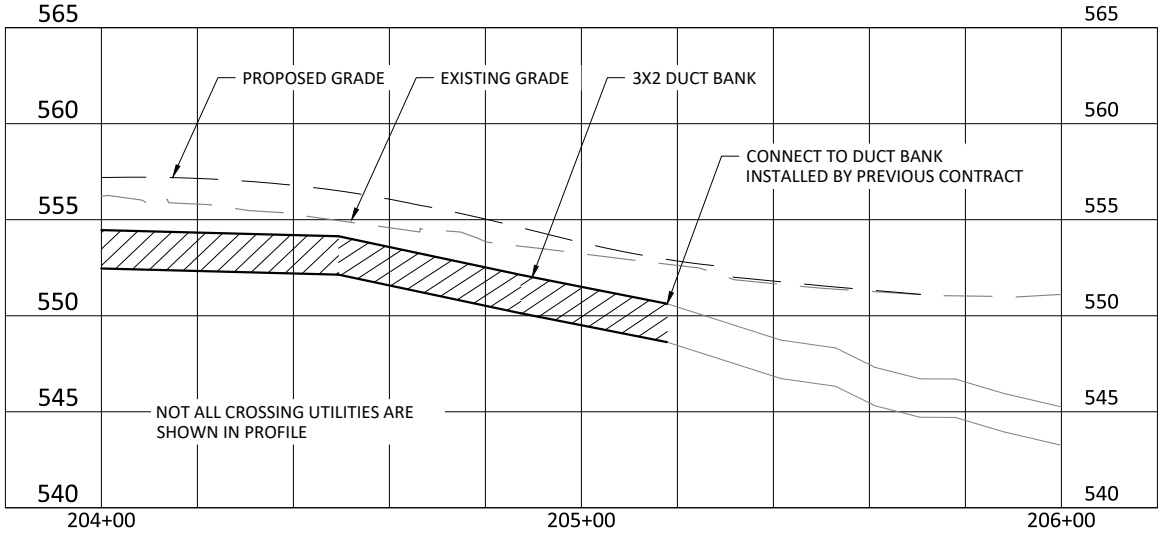
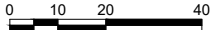
CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
WATER DETAILS

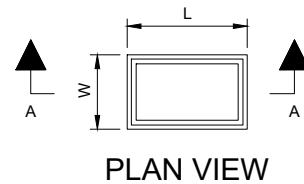
SHEET
M.03





① EXISTING STREET LIGHT POLE AND FOUNDATION REMOVAL



[illegible]

JUNCTION BOX AND HAND HOLE SCHEDULE *						
NO.	TYPE	W	L	D	PART NO.	
					COVER	BOX
1.	10" x 15" JUNCTION BOX	18"	23"	12"	CHA101512HE001	CHA101512HE001
2.	13" x 24" JUNCTION BOX	15-1/2"	25"	18"	PG1324HA0017	PG1324BA18
3.	17" x 30" HAND HOLE	19-1/4"	19-1/4"	24"	PG1730HA0021	PG1730BA24
4.	24" x 36" JUNCTION BOX	26"	26"	24"	PG2436HA0017	PG2436BA24
5.	30" x 48" HAND HOLE	32-1/8"	49-5/8"	24"	PG3048HA0021	PG3048BA24
6.	10" JUNCTION BOX					PE10HDX
7.	10" HAND HOLE					PE10HDX

6"

3-6"
(TYP.)

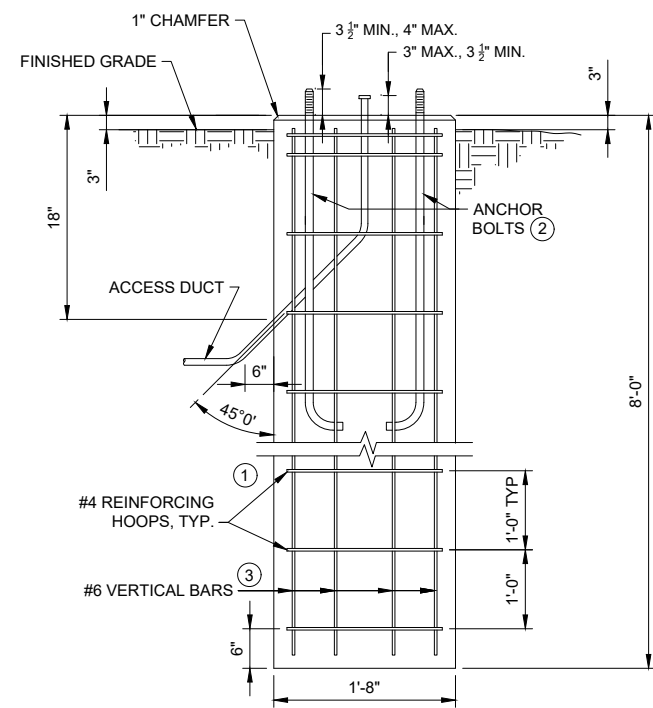
UNDISTURBED EARTH (TYP.)

1'-0"

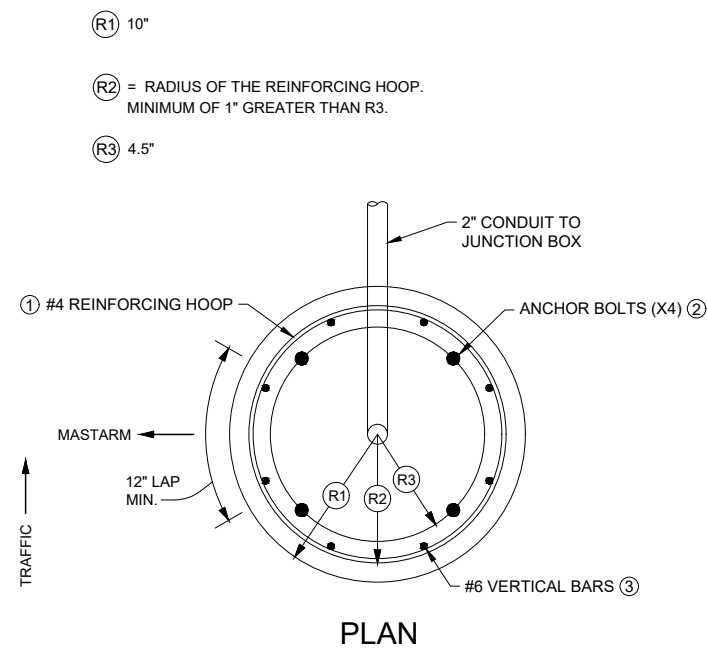
FINISH GRADE
(TYP.)

2'-0"

COMPACTED SUITABLE
BACKFILL (TYP.)



TYPICAL SECTION
TYPE A FOUNDATION



PLAN

4 STREET LIGHT CONCRETE FOUNDATION
SCALE: NONE

PROVIDE MINIMUM 2" CLEAR FOR ALL REINFORCEMENT.

CAP OPEN ENDS OF CONDUIT DURING CONSTRUCTION TO PREVENT INFILTRATION OF FOREIGN MATERIAL. AFTER THE CABLE IS INSTALLED SEAL THE UPPER END OF THE DUCTS AGAINST ENTRY OF MOISTURE BY A METHOD APPROVED BY THE ENGINEER.

FOR ACCESS DUCTS, USE A 2" NOMINAL INSIDE DIAMETER DUCT.

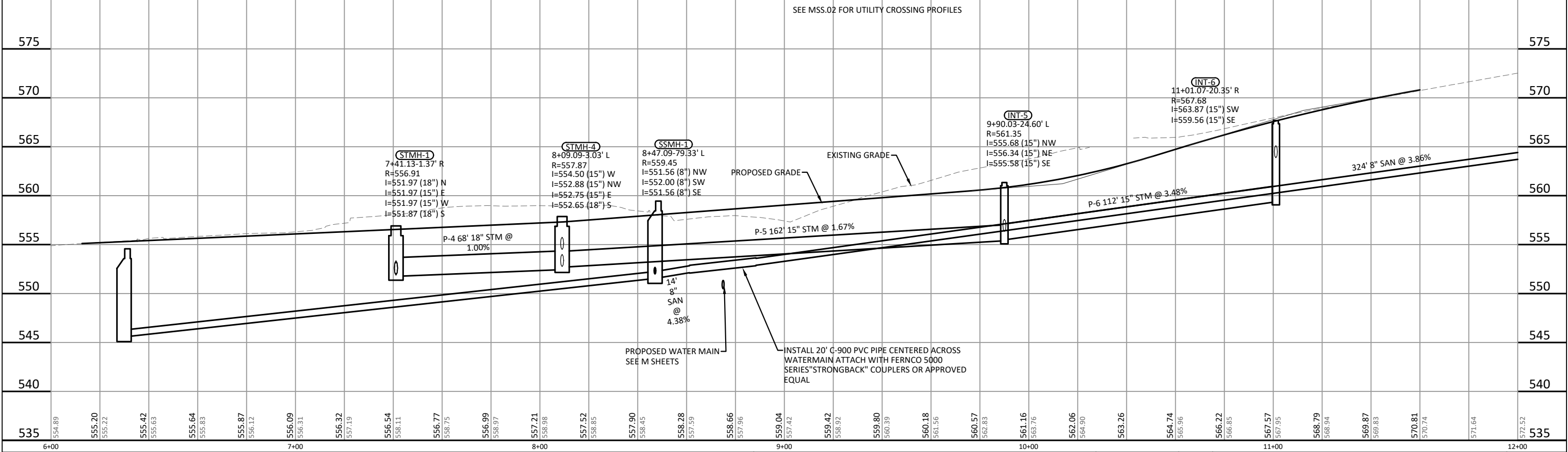
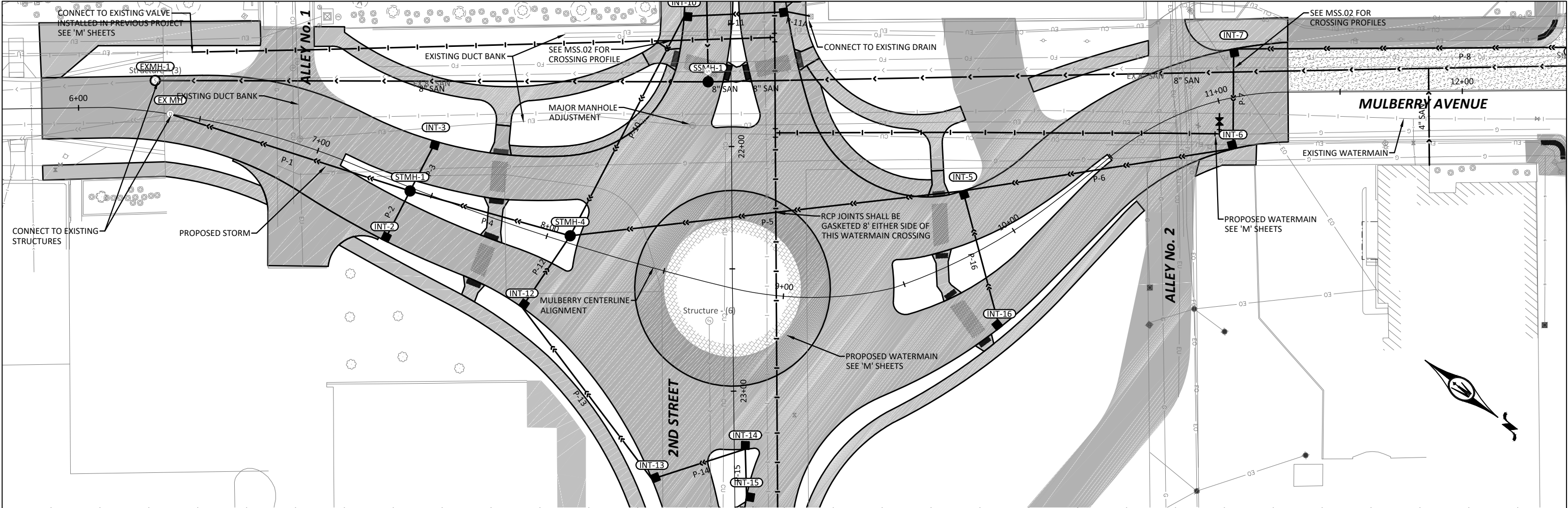
WHEN PRECAST FOUNDATIONS ARE USED, BACKFILL WITH CLASS B CONCRETE. WHEN CAVING SOIL OR GROUND WATER IS PRESENT, REMOVE TO PROVIDE AN ACCEPTABLE CONDITION PRIOR TO PLACING CLASS B CONCRETE.

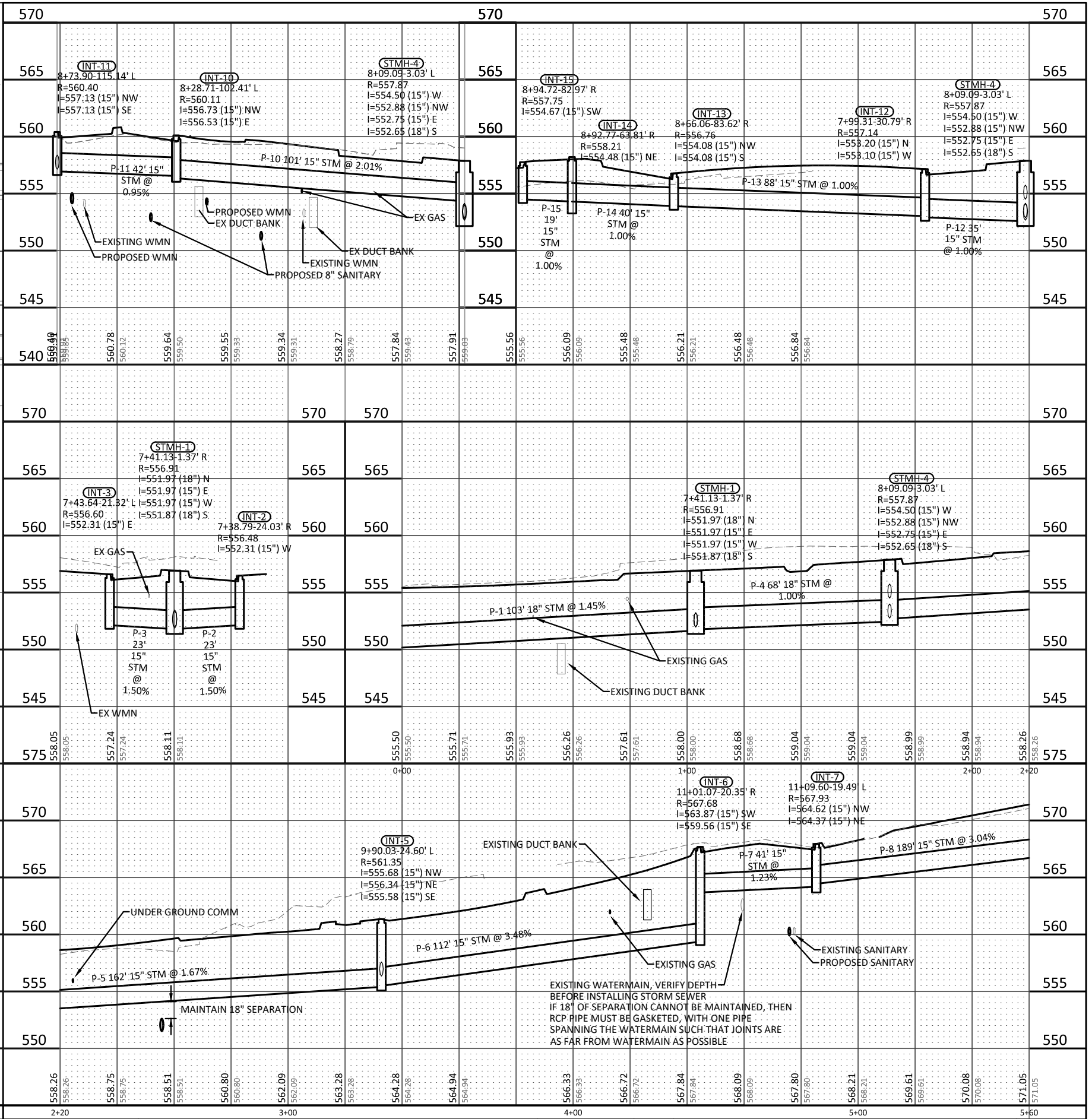
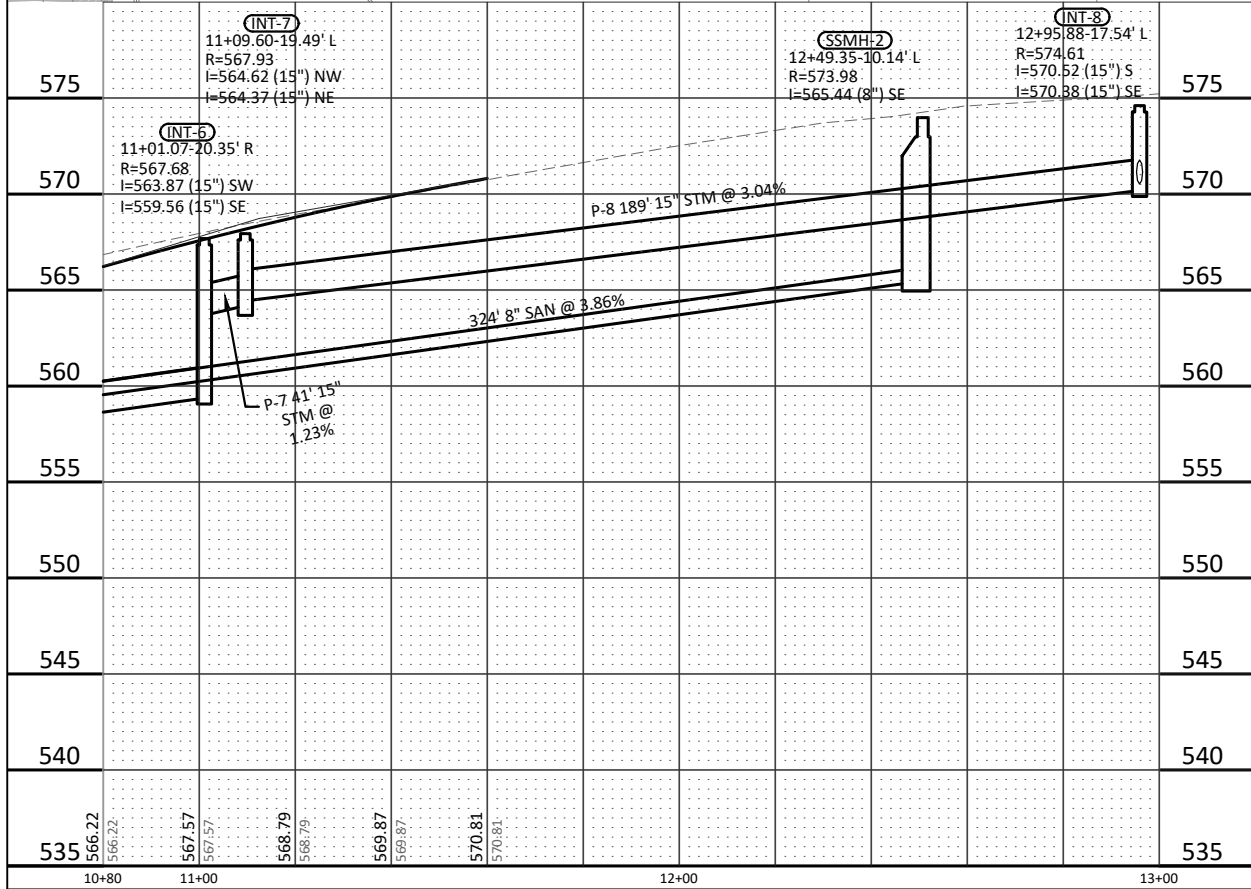
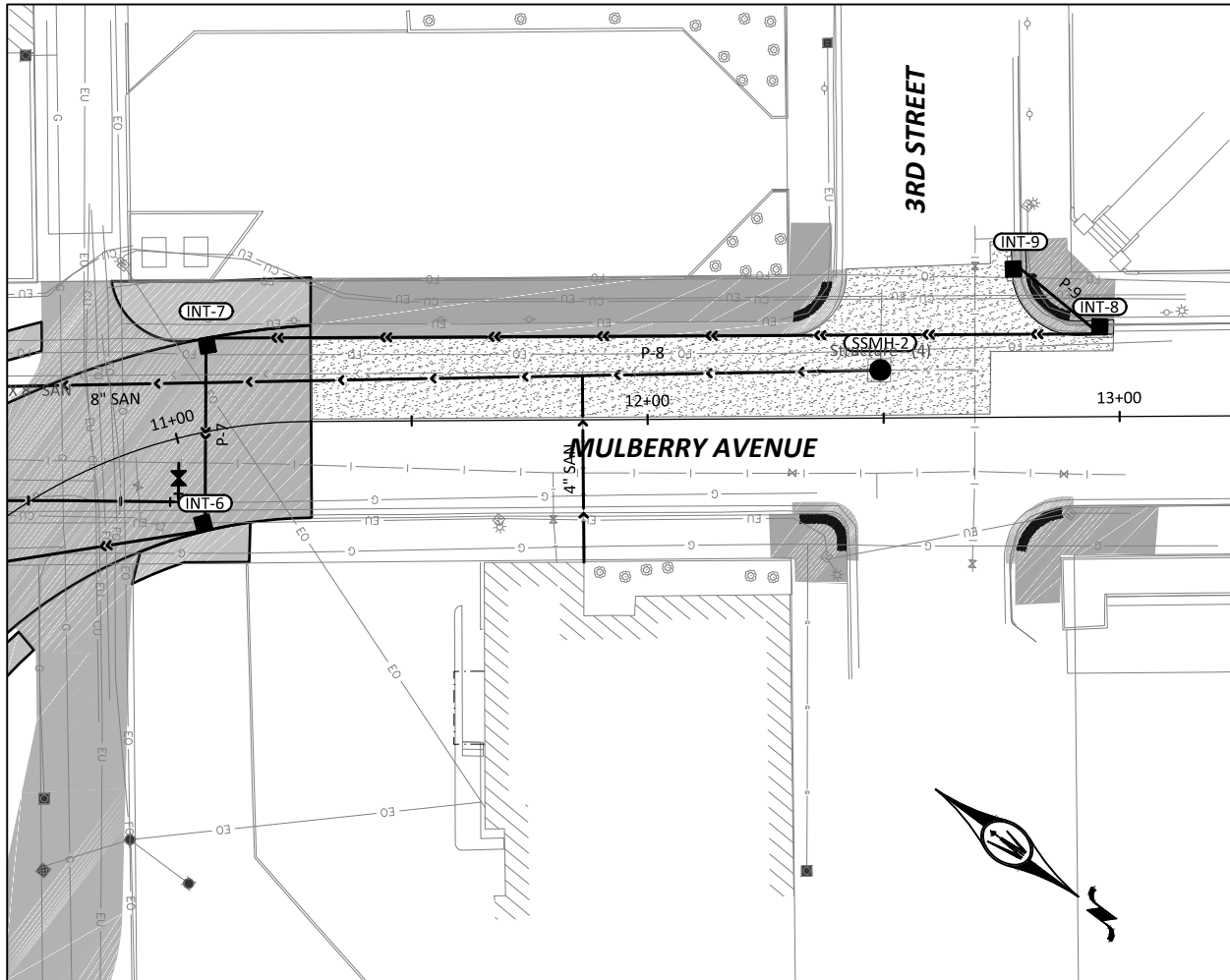
- #4 BARS LAPPED A MINIMUM OF 12" AS INDICATED. HOOPS MAY BE WELDED TO VERTICAL BARS.
- USE FULL LENGTH GALVANIZED ANCHOR BOLTS. REFER TO THE MANUFACTURER'S REQUIREMENTS FOR ANCHOR BOLT DIMENSIONS. OBTAIN A TEMPLATE FROM THE LIGHT POLE MANUFACTURER FOR ANCHOR BOLT PLACEMENT. DO NOT WELD ANCHOR BOLTS. MPW WILL PROVIDE ANCHOR BOLTS FOR INSTALLATION BY CONTRACTOR.
- PLACE 8 BARS SPACED EQUALLY.

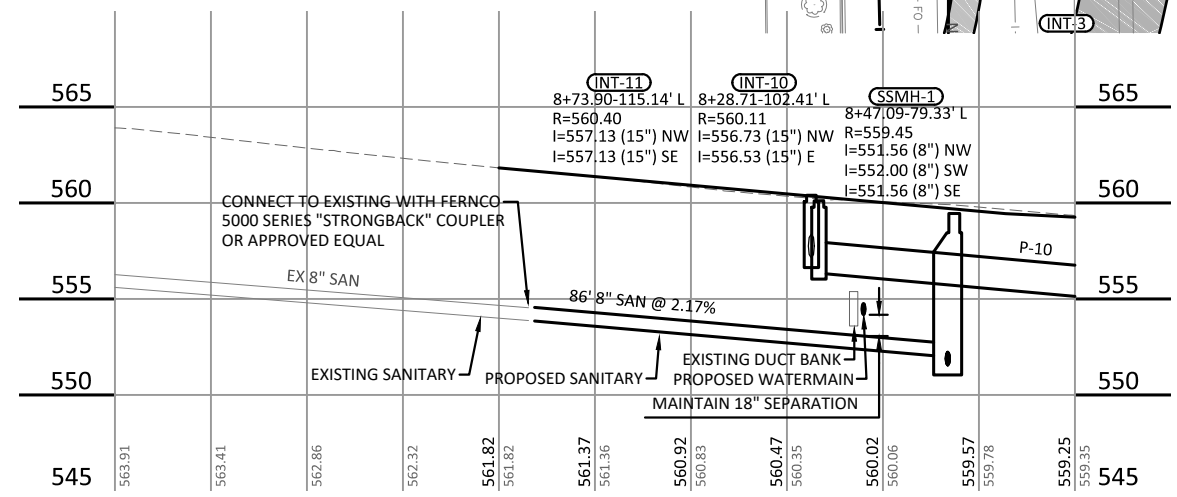
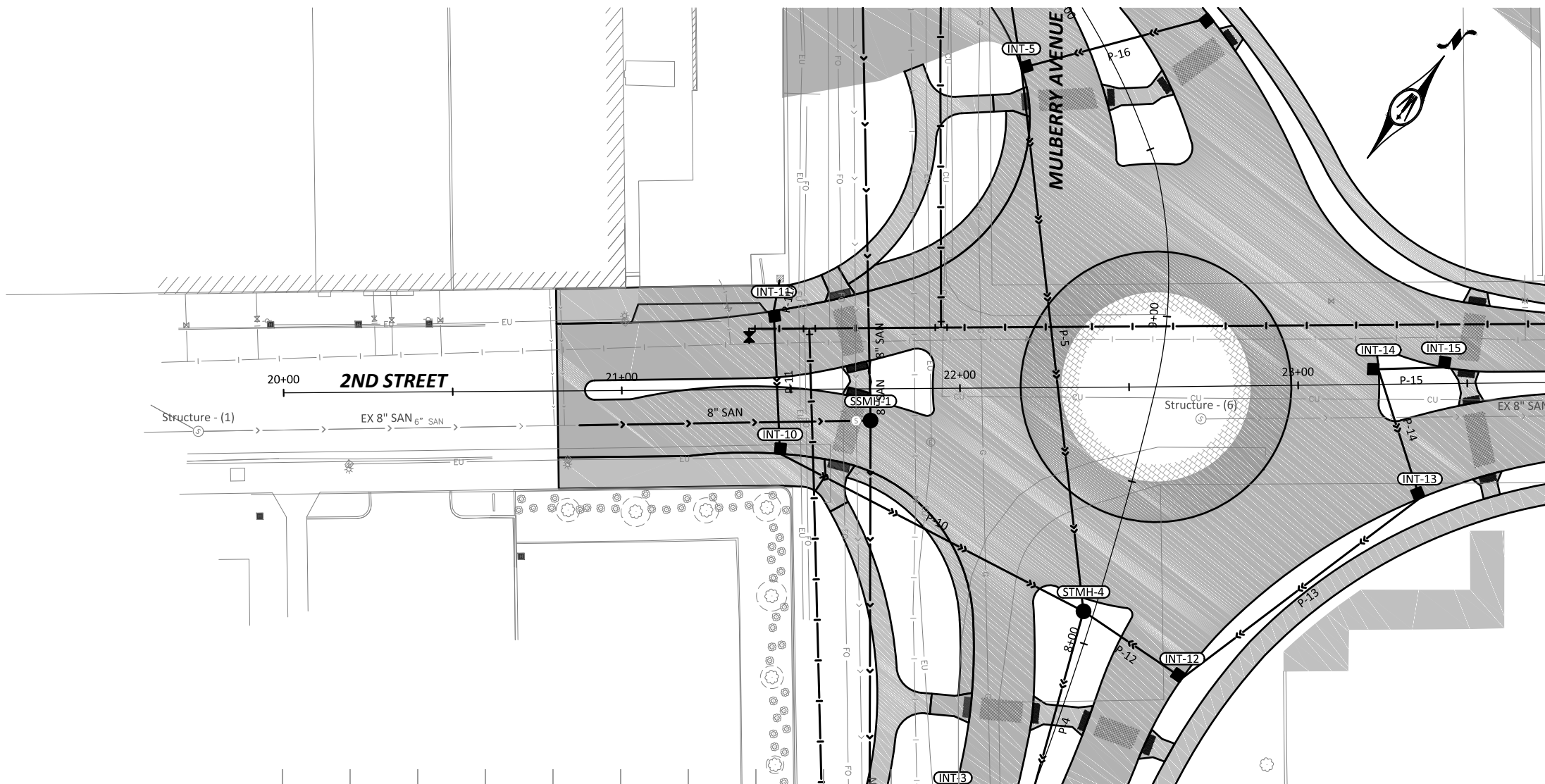


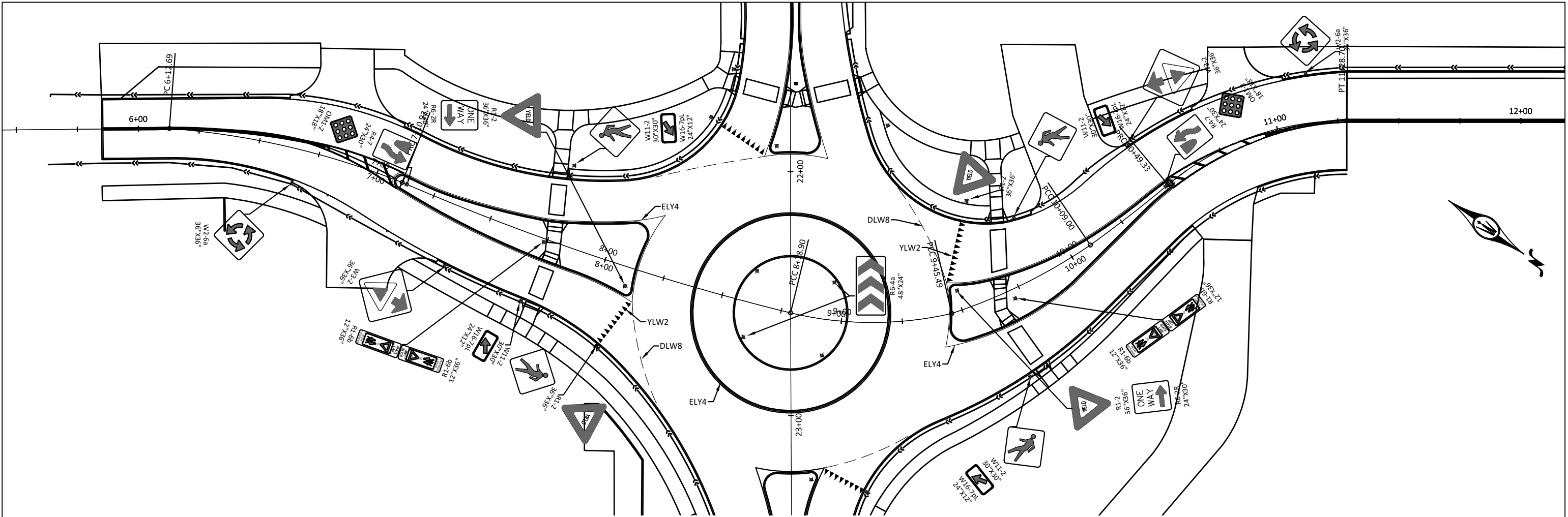
REV	ISSUED FOR	DATE	DESIGNED
0	FOR BIDS	11/21/18	BWR
			DRAWN
			NV
			CHECKED
			BWR

CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
STREET LIGHT FOUNDATION DETAIL





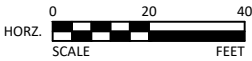




SIGN INFORMATION - MULBERRY AVENUE

STATION	OFFSET	SIGN TYPE	ANCHOR	POST QTY	SIGN DIMENSION	SIGN AREA	QTY	TOTAL AREA	REMARKS
					IN	SF		SF	
6+67.30	14.34	W2-6A	SOIL	1.0	36 X 36	9.00	1.00	9.00	
7+13.22	-00.01	R4-7	CONCRETE	1.0	24 X 30	5.00	1.00	5.00	
7+13.22	-00.01	OM1-2			18 X 18	2.25	1.00	2.25	
7+39.93	25.02	W3-2	SOIL	1.0	36 X 36	9.00	1.00	9.00	
7+73.34	27.53	W11-2	SOIL	1.0	30 X 30	6.25	1.00	6.25	
7+73.34	27.53	W16-7PL			24 X 12	2.00	1.00	2.00	
7+73.97	01.35	R1-6B	CONCRETE	1.0	12 X 36	3.00	2.00	6.00	
7+74.82	-32.30	W11-2	SOIL	1.0	30 X 30	6.25	1.00	6.25	
7+74.82	-32.30	W16-7PL			24 X 12	2.00	1.00	2.00	
8+11.12	07.75	R1-2	CONCRETE	1.0	36 X 36	9.00	1.00	9.00	
8+11.12	07.75	R6-2R			24 X 30	5.00	1.00	5.00	
8+62.90	14.35	R6-4A	SOIL	2.0	48 X 24	8.00	1.00	8.00	
8+95.02	-15.46	R6-4A	SOIL	2.0	48 X 24	8.00	1.00	8.00	
9+50.53	-08.15	R1-2	CONCRETE	1.0	36 X 36	9.00	1.00	9.00	
9+50.53	-08.15	R6-2R			24 X 30	5.00	1.00	5.00	
9+65.02	35.70	W11-2	SOIL	1.0	30 X 30	6.25	1.00	6.25	
9+65.02	35.70	W16-7PL			24 X 12	2.00	1.00	2.00	
9+70.03	-40.91	R1-2	SOIL	1.0	36 X 36	9.00	1.00	9.00	
9+71.55	03.81	R1-6B	CONCRETE	1.0	12 X 36	3.00	2.00	6.00	
9+86.76	-26.40	W11-2	SOIL	1.0	30 X 30	6.25	1.00	6.25	
9+86.76	-26.40	W16-7PL			24 X 12	2.00	1.00	2.00	
10+47.23	-23.47	W3-2	SOIL	1.0	36 X 36	9.00	1.00	9.00	
10+47.91	-00.10	R4-7	CONCRETE	1.0	24 X 30	5.00	1.00	5.00	
10+47.91	-00.10	OM1-2			18 X 18	2.25	1.00	2.25	
11+14.05	-20.51	W2-6A	CONCRETE	1.0	36 X 36	9.00	1.00	9.00	
TOTAL:				19.0			27.00	148.50	

ROAD	STATION TO STATION				LENGTH (STA)	DIR. OF TRAVEL	MARKING TYPE	LINE TYPE	SIDE			FACTORED LENGTH (STA)	REMARKS
	STA	OFF	STA	OFF					L	C	R		
MULBERRY AVE	7+09.50		8+15.75		2.64	BOTH	Waterborne/Solvent Paint	ELY4	x			2.64	Edge Line Around Island
MULBERRY AVE	8+15.80	13.23	8+08.23	33.28	0.22	EB	Waterborne/Solvent Paint	YLW2	x	x	x	0.38	
MULBERRY AVE	8+15.80	13.23	8+37.60	51.69	0.45	EB	Waterborne/Solvent Paint	DLW4	x	x	x	0.15	
MULBERRY AVE	9+28.88	-55.44	9+47.59	-12.67	0.47	WB	Waterborne/Solvent Paint	DLW4	x	x	x	0.16	
MULBERRY AVE	9+47.59	-12.67	9+63.44	-33.98	0.27	WB	Waterborne/Solvent Paint	YLW2	x	x	x	0.47	
MULBERRY AVE	9+47.59		10+50.42		1.03	BOTH	Waterborne/Solvent Paint	ELY4	x			1.03	Edge Line Around Island
MULBERRY AVE	5+85.50	0	6+70.00	0	0.85	BOTH	Waterborne/Solvent Paint	DCY4		x		1.7	
MULBERRY AVE	6+70.00	0	7+10.00	0	1.03	BOTH	Waterborne/Solvent Paint	CHY8		x		2.06	
MULBERRY AVE	10+50.25	0	11+05.35	0	1.32	BOTH	Waterborne/Solvent Paint	CHY8		x		2.64	
MULBERRY AVE	11+05.35	0	12+18.00	0	1.13	BOTH	Waterborne/Solvent Paint	DCY4		x		2.26	

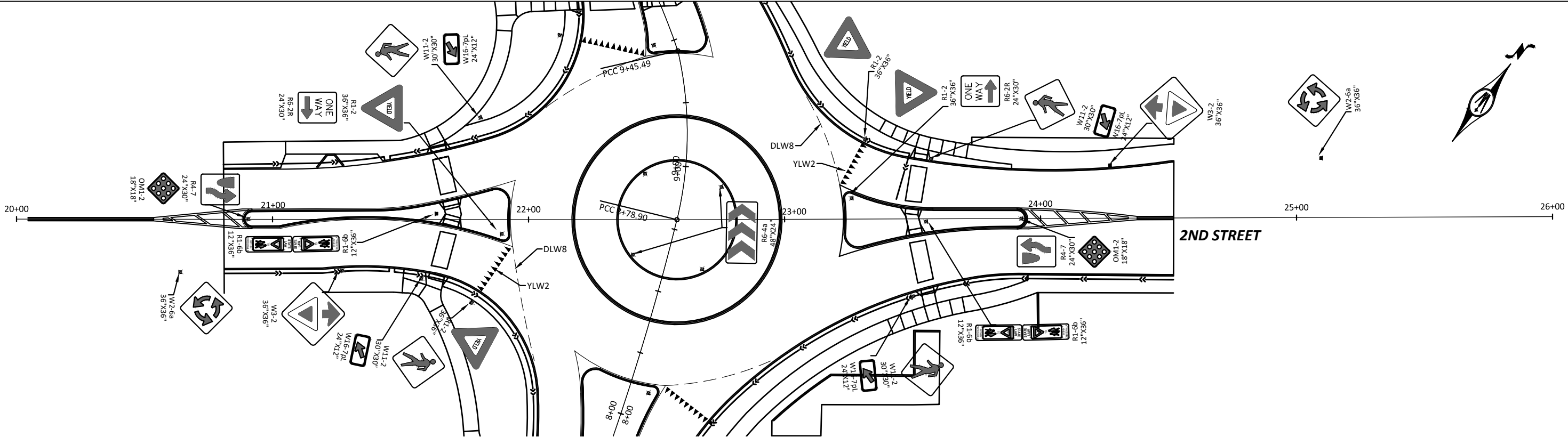


BOLTON & MENK

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

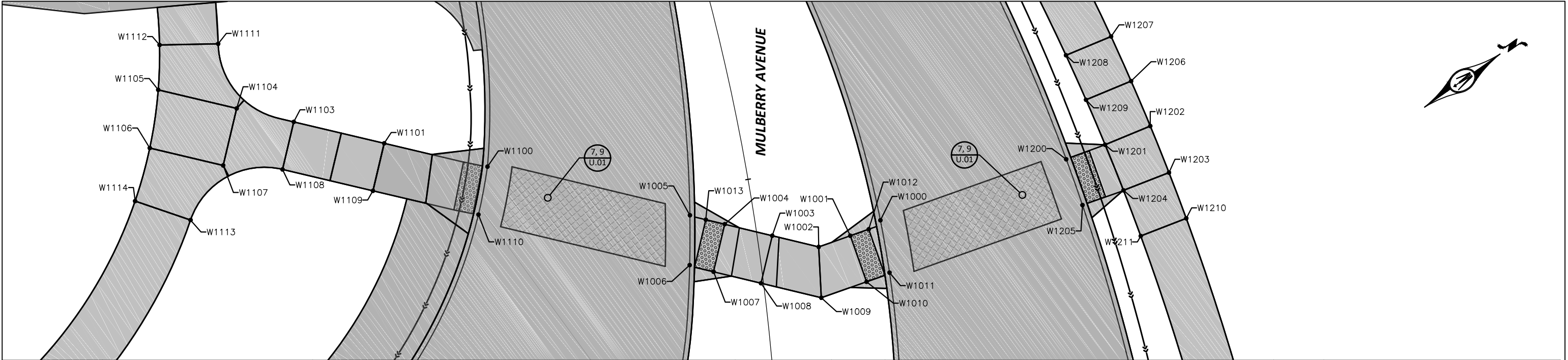
REV	ISSUED FOR	DATE	DESIGNED
			JGS
			DRAWN
			JGS
			CHECKED
			ALH

CITY OF MUSCATINE, IOWA	
2ND & MULBERRY ROUNDABOUT	
PAVEMENT MARKINGS & SIGNS	

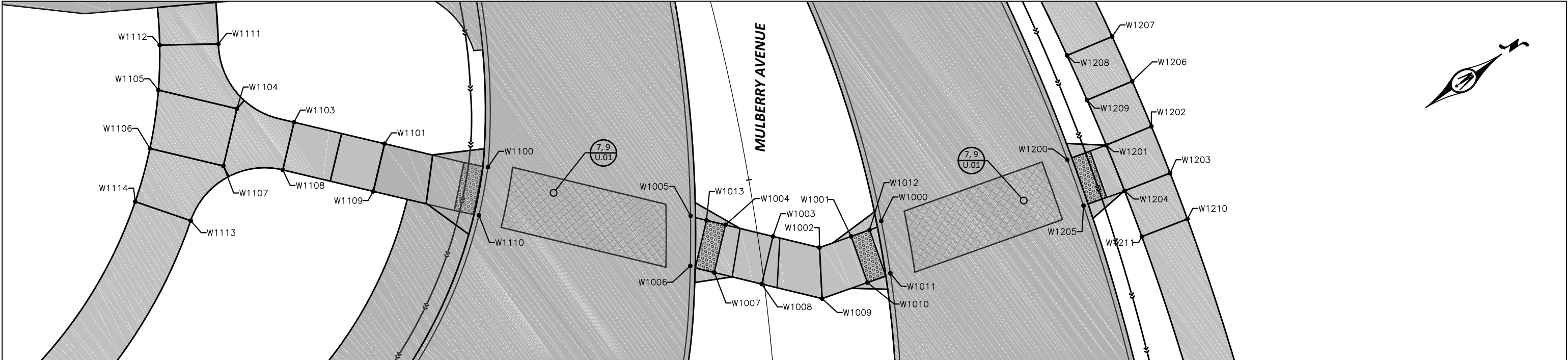


SIGN INFORMATION - 2ND STREET									
STATION	OFFSET	SIGN TYPE	ANCHOR	POST QTY	SIGN DIMENSION	SIGN AREA	QTY	TOTAL AREA	REMARKS
					IN	SF		SF	
20+64.14	20.68	W2-6A	CONCRETE	1.0	36 X 36	9.00	1.00	9.00	
20+90.74	-00.10	R4-7	CONCRETE	1.0	24 X 30	5.00	1.00	5.00	
20+90.74	-00.10	OM1-2			18 X 18	2.25	1.00	2.25	
21+27.44	20.05	W3-2	CONCRETE	1.0	36 X 36	9.00	1.00	9.00	
21+58.30	23.18	W11-2	SOIL	1.0	30 X 30	6.25	1.00	6.25	
21+58.30	23.18	W16-7PL			24 X 12	2.00	1.00	2.00	
21+63.37	-02.22	R1-6B	CONCRETE	1.0	12 X 36	3.00	2.00	6.00	
21+77.93	32.57	R1-2	SOIL	1.0	36 X 36	9.00	1.00	9.00	
21+80.95	-39.82	W11-2	SOIL	1.0	30 X 30	6.25	1.00	6.25	
21+80.95	-39.82	W16-7PL			24 X 12	2.00	1.00	2.00	
21+89.76	05.60	R1-2	CONCRETE	1.0	36 X 36	9.00	1.00	9.00	
21+89.76	05.60	R6-2R			24 X 30	5.00	1.00	5.00	
22+40.99	13.70	R6-4A	SOIL	2.0	48 X 24	8.00	1.00	8.00	
22+75.23	-12.73	R6-4A	SOIL	2.0	48 X 24	8.00	1.00	8.00	
23+26.05	-08.19	R1-2	SOIL	1.0	36 X 36	9.00	1.00	9.00	
23+26.05	-08.19	R6-2R			24 X 30	5.00	1.00	5.00	
23+31.46	-31.17	R1-2	SOIL	1.0	36 X 36	9.00	1.00	9.00	
23+50.03	30.29	W11-2	SOIL	1.0	30 X 30	6.25	1.00	6.25	
23+50.03	30.29	W16-7PL			24 X 12	2.00	1.00	2.00	
23+55.10	01.09	R1-6B	CONCRETE	1.0	12 X 36	3.00	2.00	6.00	
23+57.25	-23.47	W11-2	SOIL	1.0	30 X 30	6.25	1.00	6.25	
23+57.25	-23.47	W16-7PL			24 X 12	2.00	1.00	2.00	
23+92.32	00.01	R4-7	CONCRETE	1.0	24 X 30	5.00	1.00	5.00	
23+92.32	00.01	OM1-2			18 X 18	2.25	1.00	2.25	
TOTAL:				18.0			26.00	139.50	

ROAD	STATION TO STATION				LENGTH (STA)	DIR. OF TRAVEL	MARKING TYPE	LINE TYPE	SIDE			FACTORED LENGTH (STA)	REMARKS
	STA	OFF	STA	OFF					L	C	R		
2ND STREET	20+88.00		21+93.81		2.46	BOTH	Waterborne/Solvent Paint	ELY4	x			2.46	Edge Line Around Island
2ND STREET	21+81.40	28.24	21+93.81	10.67	0.22	EB	Waterborne/Solvent Paint	YLW2	x	x	x	0.38	
2ND STREET	21+93.81	10.67	22+01.80	55.48	0.46	EB	Waterborne/Solvent Paint	DLW4	x	x	x	0.16	
2ND STREET		CENTER CIRCLE				2.60	BOTH	Waterborne/Solvent Paint	ELW4	x		2.6	Edge Line Around Center Circle
2ND STREET	23+08.64	-48.77	23+21.57	-13.47	0.38	WB	Waterborne/Solvent Paint	DLW4	x	x	x	0.13	
2ND STREET	23+21.57	-13.47	23+30.43	-29.66	0.19	WB	Waterborne/Solvent Paint	YLW2	x	x	x	0.33	
2ND STREET	23+21.57		23+94.82		1.83	BOTH	Waterborne/Solvent Paint	ELY4	x			1.83	
2ND STREET	20+05.00	0	20+54.00	0	0.49	BOTH	Waterborne/Solvent Paint	DCY4		x		0.98	
2ND STREET	20+54.00	0	2092	0	0.95	BOTH	Waterborne/Solvent Paint	CHW8		x		1.9	
2ND STREET	23+91.00	0	24+38.00	0	1.19	BOTH	Waterborne/Solvent Paint	CHW8		x		2.38	
2ND STREET	24+38.00	0	24+52.00	0	0.14	BOTH	Waterborne/Solvent Paint	DCY4		x		0.28	






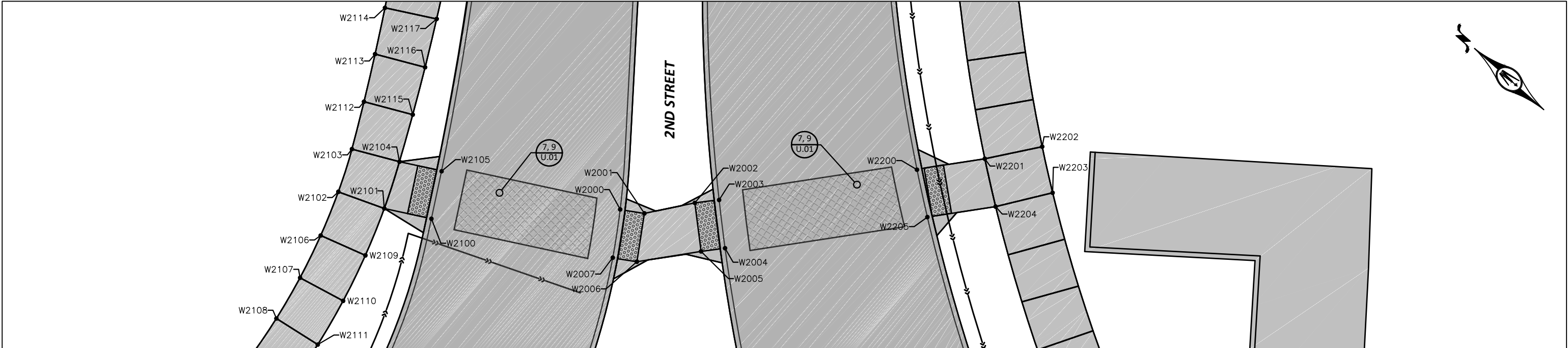
Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Legally Acceptable Range	Difference between Designed Slope and Maximum Legally Acceptable Range	Acceptable Constructed Range	Does Designer need to obtain design approval from Method's Engineer?	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
			FT	FT	%	Pos. or Neg.		Pos. or Neg.			%			Point	Station	Offset	Elevation
W1000	W1012	Ramp Running Slope	0.86	0.01	1.2%	0.5% to 8.3%	7.1%	0.5% to 8.3%						1000	9+68.35	12.25	560.30
W1012	W1001	Ramp Running Slope	2.00	-0.02	-1.0%	0.5% to 8.3%	7.3%	0.5% to 8.3%						1008	9+64.28	-0.26	560.32
W1001	W1002	Landing/Turning Space	3.43	0.05	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						1001	9+67.82	9.44	560.29
W1002	W1003	Landing/Turning Space	4.89	0.03	0.6%	0.1% to 2.0%	1.4%	0.1% to 2.0%						1002	9+67.15	6.08	560.34
W1003	W1004	Landing/Turning Space	5.00	0.06	1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%						1003	9+68.93	1.53	560.37
W1004	W1013	Ramp Running Slope	2.00	0.02	1.0%	0.5% to 8.3%	7.3%	0.5% to 8.3%						1004	9+70.82	-3.10	560.43
W1013	W1005	Ramp Running Slope	1.16	0.02	1.7%	0.5% to 8.3%	6.6%	0.5% to 8.3%						1005	9+72.05	-6.01	560.47
W1005	W1006	Ramp Cross Slope	5.28	-0.06	-1.1%	0.1% to 2.0%	0.9%	0.1% to 2.0%						1006	9+66.83	-6.80	560.41
W1006	W1007	Ramp Running Slope	2.01	-0.03	-1.5%	0.5% to 8.3%	6.8%	0.5% to 8.3%						1007	9+66.09	-4.93	560.38
W1007	W1008	Landing/Turning Space	5.01	-0.06	-1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%						1009	9+62.08	5.69	560.27
W1008	W1009	Landing/Turning Space	6.34	-0.05	-0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%						1010	9+63.13	10.48	560.26
W1009	W1010	Landing/Turning Space	4.90	-0.01	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%						1011	9+63.54	12.44	560.24
W1010	W1011	Ramp Running Slope	2.00	-0.02	-1.0%	0.5% to 8.3%	7.3%	0.5% to 8.3%						1012	9+68.18	11.41	560.31
W1011	W1000	Ramp Cross Slope	4.81	0.06	1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%						1013	9+71.59	-4.95	560.45
W1011	W1012	Ramp Cross Slope	4.75	0.07	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									
W1010	W1001	Landing/Turning Space	4.80	0.03	0.6%	0.1% to 2.0%	1.4%	0.1% to 2.0%									
W1009	W1002	Landing/Turning Space	5.08	0.07	1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%									
W1008	W1003	Landing/Turning Space	4.98	0.05	1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%									
W1007	W1004	Ramp Cross Slope	5.07	0.05	1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%									
W1006	W1013	Ramp Running Slope	5.11	0.04	0.8%	0.5% to 8.3%	7.5%	0.5% to 8.3%									
W1200	W1201	Ramp Running Slope	3.72	0.24	6.4%	0.5% to 8.3%	1.9%	0.5% to 8.3%						1200	9+72.01	32.96	560.35
W1205	W1204	Ramp Running Slope	4.44	0.29	6.5%	0.5% to 8.3%	1.8%	0.5% to 8.3%						1201	9+72.64	36.63	560.59
W1200	W1205	Ramp Cross Slope	4.40	-0.06	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%						1202	9+73.61	41.51	560.66
W1201	W1204	Landing/Turning Space	4.38	-0.01	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%						1203	9+69.37	42.66	560.62
W1201	W1202	Landing/Turning Space	4.98	0.07	1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%						1204	9+68.42	37.79	560.58
W1204	W1203	Landing/Turning Space	4.96	0.04	0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%						1205	9+67.63	33.42	560.29
W1202	W1203	Landing/Turning Space	4.39	-0.04	-0.9%	0.1% to 2.0%	1.1%	0.1% to 2.0%						1206	9+77.75	40.38	560.90
W1201	W1203	Landing/Turning Space	6.86	0.03	0.4%	0.1% to 2.0%	1.6%	0.1% to 2.0%						1207	9+81.90	39.24	561.16
W1202	W1204	Landing/Turning Space	6.39	-0.08	-1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%						1208	9+81.07	34.33	561.09
W1201	W1209	Ramp Running Slope	4.35	0.24	5.5%	0.5% to 8.3%	2.8%	0.5% to 8.3%						1209	9+76.84	35.49	560.83
W1209	W1208	Ramp Running Slope	4.39	0.26	5.9%	0.5% to 8.3%	2.4%	0.5% to 8.3%						1210	9+65.27	43.77	560.77
W1202	W1206	Ramp Running Slope	4.29	0.24	5.6%	0.5% to 8.3%	2.7%	0.5% to 8.3%						1211	9+64.24	38.91	560.70
W1206	W1207	Ramp Running Slope	4.30	0.26	6.0%	0.5% to 8.3%	2.3%	0.5% to 8.3%									
W1204	W1211	Ramp Running Slope	4.33	0.12	2.8%	0.5% to 8.3%	5.5%	0.5% to 8.3%									
W1203	W1210	Ramp Running Slope	4.25	0.15	3.5%	0.5% to 8.3%	4.8%	0.5% to 8.3%									
W1211	W1210	Ramp Cross Slope	4.97	0.07	1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%									
W1209	W1206	Ramp Cross Slope	4.97	0.07	1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%									
W1208	W1207	Ramp Cross Slope	4.98	0.07	1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%									



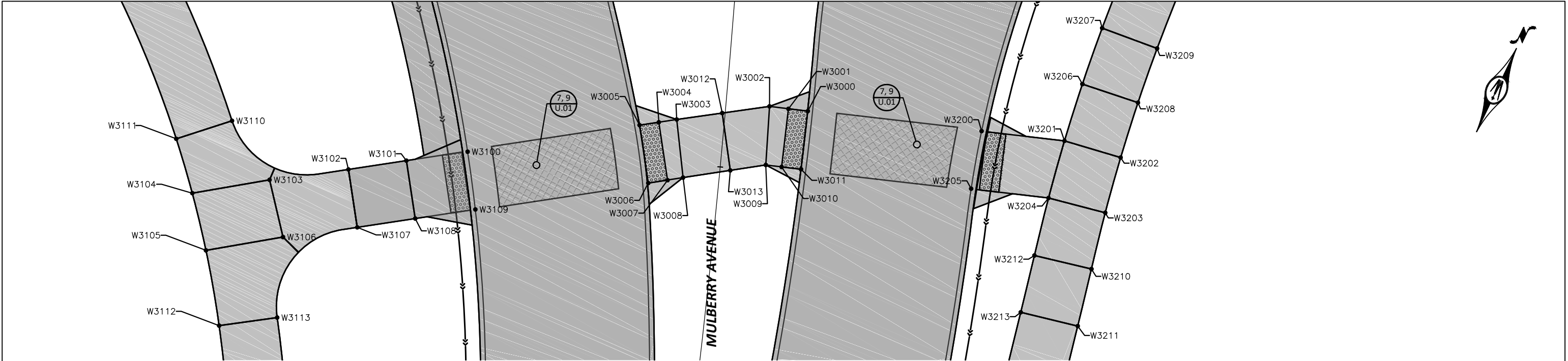
Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Legally Acceptable Range	Difference between Designed Slope and Maximum Legally Acceptable Range	Acceptable Constructed Range	Does Designer need to obtain design approval from Method's Engineer?	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
			FT	FT	%	Pos. or Neg.		Pos. or Neg.			%			Point	Station	Offset	Elevation
W1100	W1101	Ramp Running Slope	11.16	0.54	4.8%	0.5% to 8.3%	3.5%	0.5% to 8.3%						1100	981.57	-25.99	560.86
W1101	W1103	Sidewalk Running Slope	9.95	0.39	3.9%	0.5% to 5.0%	1.1%	0.5% to 5.0%						1101	986.85	-35.82	561.4
W1103	W1104	Sidewalk Running Slope	6.37	0.19	3.0%	0.5% to 5.0%	2.0%	0.5% to 5.0%						1103	992.03	-44.32	561.79
W1110	W1109	Ramp Running Slope	11.40	0.75	6.6%	0.5% to 8.3%	1.7%	0.5% to 8.3%						1104	995.55	-49.63	561.98
W1109	W1108	Sidewalk Running Slope	9.94	0.36	3.6%	0.5% to 5.0%	1.4%	0.5% to 5.0%						1105	1000.74	-56.85	562.05
W1108	W1107	Sidewalk Running Slope	6.24	0.07	1.1%	0.5% to 5.0%	3.9%	0.5% to 5.0%						1106	993.36	-59.26	561.96
W1104	W1105	Landing/Turning Space	8.89	0.07	0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%						1107	988.7	-52.39	561.9
W1105	W1106	Landing/Turning Space	7.76	-0.09	-1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%						1108	986.46	-46.57	561.83
W1106	W1107	Landing/Turning Space	8.30	-0.06	-0.7%	0.1% to 2.0%	1.3%	0.1% to 2.0%						1109	981.47	-37.97	561.47
W1107	W1104	Landing/Turning Space	7.39	0.08	1.1%	0.1% to 2.0%	0.9%	0.1% to 2.0%						1110	976.31	-27.81	560.72
W1104	W1106	Landing/Turning Space	9.88	-0.02	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%						1111	1004.33	-49.62	562.12
W1105	W1107	Landing/Turning Space	12.84	-0.15	-1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%						1112	1006.51	-55.38	562.19
W1104	W1111	Sidewalk Running Slope	8.78	0.14	1.6%	0.5% to 5.0%	3.4%	0.5% to 5.0%						1113	982.48	-56.86	561.73
W1105	W1112	Sidewalk Running Slope	5.95	0.14	2.4%	0.5% to 5.0%	2.6%	0.5% to 5.0%						1114	986.66	-61.99	561.77
W1106	W1114	Sidewalk Running Slope	7.23	-0.19	-2.6%	0.5% to 5.0%	2.4%	0.5% to 5.0%									
W1107	W1113	Sidewalk Running Slope	7.66	-0.17	-2.2%	0.5% to 5.0%	2.8%	0.5% to 5.0%									
W1100	W1110	Crosswalk Cross Slope - No Yield Condition	5.57	-0.14	-2.5%	0.0% to 5.0%	2.5%	0.0% to 5.0%									
W1101	W1109	Ramp Cross Slope	5.79	0.07	1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%									
W1103	W1108	Sidewalk Cross Slope	6.01	0.04	0.7%	0.5% to 2.0%	1.3%	0.5% to 2.0%									
W1112	W1111	Sidewalk Cross Slope	6.16	-0.07	-1.1%	0.5% to 2.0%	0.9%	0.5% to 2.0%									
W1113	W1114	Sidewalk Cross Slope	6.62	0.04	0.6%	0.5% to 2.0%	1.4%	0.5% to 2.0%									



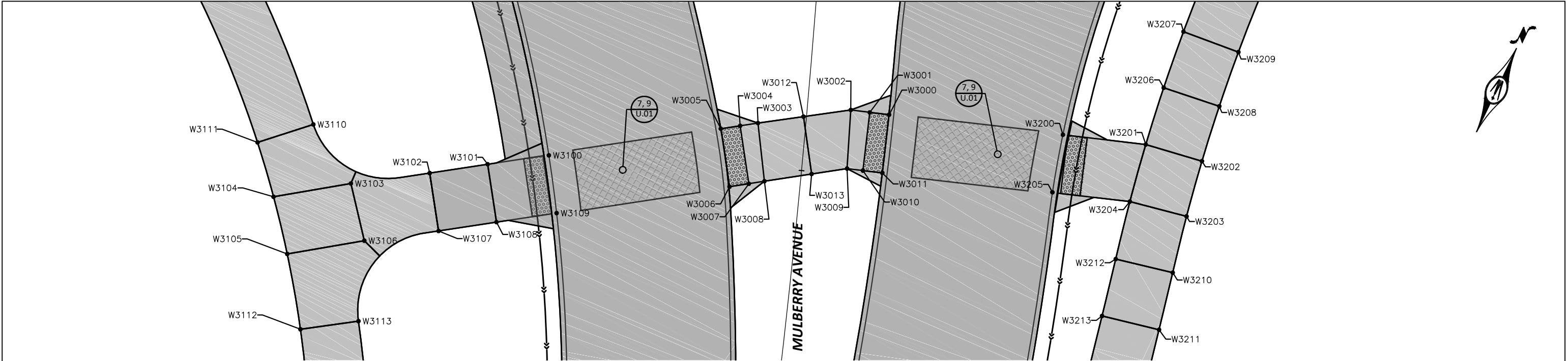
 <p>© Bolton & Menk, Inc. 2018, All Rights Reserved H:\MUSCATIN_CI_IA\G11115855\CAD\C3D\115855S01.dwg 6/15/2018 10:49 AM</p>		 BOLTON & MENK	855 WRIGHT BROTHERS BLVD SW, SUITE 2A CEDAR RAPIDS, IOWA 52404 Phone: (319) 362-3219 Email: CedarRapids@bolton-menk.com www.bolton-menk.com	REV	ISSUED FOR	DATE	DESIGNED JGS	CITY OF MUSCATINE, IOWA	SHEET \$03
							DRAWN JGS	2ND & MULBERRY ROUNDABOUT	
							CHECKED ALH	SIDEWALK RAMP LAYOUT	



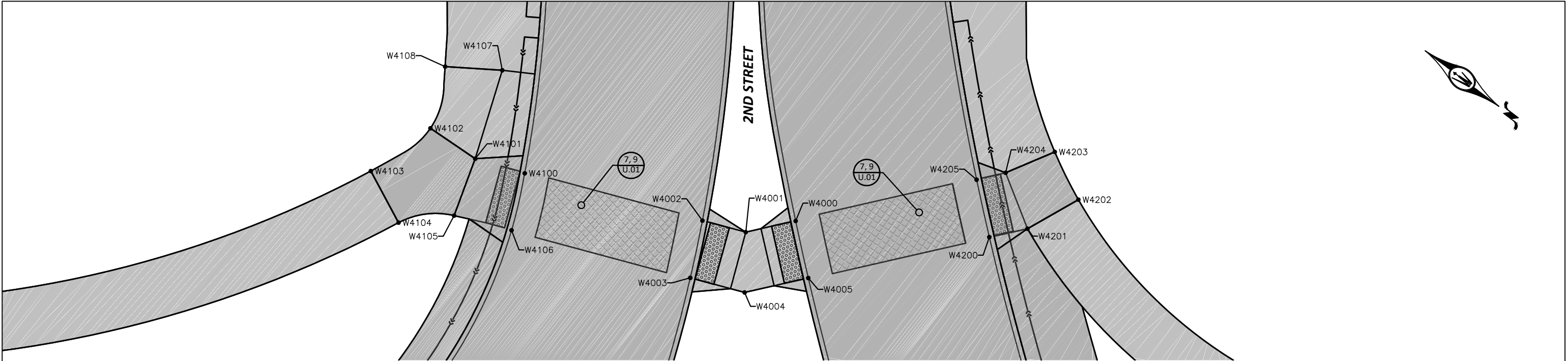
Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Legally Acceptable Range	Difference between Designed Slope and Maximum Legally Acceptable Range	Acceptable Constructed Range	Does Designer need to obtain design approval from Method's Engineer?	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
														Point	Station	Offset	Elevation
			FT	FT	%	Pos. or Neg.		Pos. or Neg.			%						
W2200	W2201	Ramp Running Slope	7.02	0.47	6.7%	0.5% to 8.3%	1.6%	0.5% to 8.3%						2200	2357.86	26.07	556.3
W2205	W2204	Ramp Running Slope	7.07	0.45	6.4%	0.5% to 8.3%	1.9%	0.5% to 8.3%						2201	2359.3	32.94	556.77
W2200	W2205	Ramp Cross Slope	4.96	0.07	1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%						2202	2360.81	38.75	556.84
W2201	W2202	Landing/Turning Space	6.00	0.07	1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%						2203	2356.15	40.04	556.89
W2202	W2203	Landing/Turning Space	4.84	0.05	1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%						2204	2354.47	34.28	556.82
W2203	W2204	Landing/Turning Space	6.00	-0.07	-1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%						2205	2353.07	27.35	556.37
W2204	W2201	Landing/Turning Space	5.01	-0.05	-1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%									
W2201	W2203	Landing/Turning Space	7.77	0.12	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									
W2202	W2204	Landing/Turning Space	7.76	-0.02	-0.3%	0.1% to 2.0%	1.7%	0.1% to 2.0%									



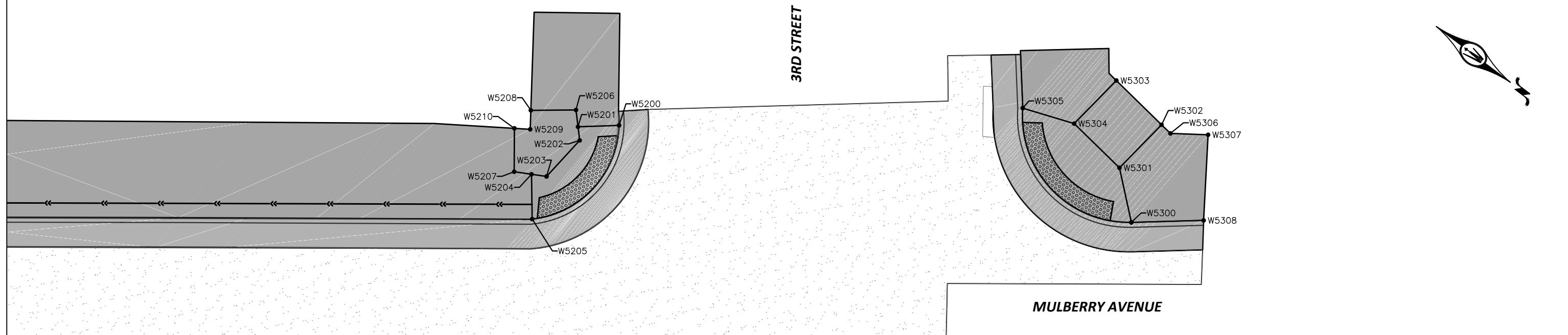
Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Legally Acceptable Range	Difference between Designed Slope and Maximum Legally Acceptable Range	Acceptable Constructed Range	Does Designer need to obtain design approval from Method's Engineer?	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks		FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
			FT	FT	%	Pos. or Neg.		Pos. or Neg.			%				Point	Station	Offset	Elevation
W3000	W3001	Ramp Running Slope	2.00	0.03	1.5%	0.5% to 8.3%	6.8%	0.5% to 8.3%							3000	7+81.49	8.41	556.77
W3001	W3002	Ramp Running Slope	1.95	0.03	1.5%	0.5% to 8.3%	6.8%	0.5% to 8.3%							3001	7+81.55	6.41	556.80
W3002	W3012	Landing/Turning Space	4.89	0.04	0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%							3002	7+81.63	4.46	556.83
W3012	W3003	Landing/Turning Space	4.71	0.03	0.6%	0.1% to 2.0%	1.4%	0.1% to 2.0%							3003	7+79.44	-4.88	556.90
W3003	W3004	Ramp Running Slope	1.86	0.03	1.6%	0.5% to 8.3%	6.7%	0.5% to 8.3%							3004	7+78.99	-6.68	556.93
W3004	W3005	Ramp Running Slope	2.00	0.02	1.0%	0.5% to 8.3%	7.3%	0.5% to 8.3%							3005	7+78.51	-8.62	556.95
W3005	W3006	Ramp Cross Slope	6.04	-0.08	-1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%							3006	7+72.64	-7.18	556.87
W3006	W3007	Ramp Running Slope	2.00	-0.02	-1.0%	0.5% to 8.3%	7.3%	0.5% to 8.3%							3007	7+73.13	-5.24	556.85
W3007	W3008	Ramp Running Slope	1.62	-0.04	-2.5%	0.5% to 8.3%	5.8%	0.5% to 8.3%							3008	7+73.55	-3.68	556.81
W3008	W3013	Landing/Turning Space	4.89	-0.03	-0.6%	0.1% to 2.0%	1.4%	0.1% to 2.0%							3009	7+75.64	4.62	556.75
W3013	W3009	Landing/Turning Space	3.67	-0.03	-0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%							3010	7+75.59	6.26	556.73
W3009	W3010	Ramp Running Slope	1.64	-0.02	-1.2%	0.5% to 8.3%	7.1%	0.5% to 8.3%							3011	7+75.54	8.26	556.70
W3010	W3011	Ramp Running Slope	2.00	-0.03	-1.5%	0.5% to 8.3%	6.8%	0.5% to 8.3%							3012	7+80.52	-0.30	556.87
W3000	W3011	Ramp Cross Slope	5.95	-0.07	-1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%							3013	7+74.75	1.06	556.78
W3001	W3010	Ramp Cross Slope	5.96	-0.07	-1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%										
W3002	W3009	Ramp Cross Slope	5.99	-0.08	-1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%										
W3012	W3013	Ramp Cross Slope	5.93	-0.09	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%										
W3003	W3008	Ramp Cross Slope	6.01	-0.09	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%										
W3004	W3007	Ramp Cross Slope	6.03	-0.08	-1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%										
W3200	W3201	Ramp Running Slope	8.54	0.49	5.7%	0.5% to 8.3%	2.6%	0.5% to 8.3%							3200	781.03	26.31	556.29
W3205	W3204	Ramp Running Slope	7.98	0.49	6.1%	0.5% to 8.3%	2.2%	0.5% to 8.3%							3201	780.8	34.85	556.78
W3200	W3205	Ramp Cross Slope	5.84	-0.08	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%							3202	779.65	40.73	556.82
W3201	W3204	Landing/Turning Space	5.88	-0.08	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%							3203	774.1	39.68	556.76
W3201	W3202	Landing/Turning Space	5.99	0.04	0.7%	0.1% to 2.0%	1.3%	0.1% to 2.0%							3204	775.02	33.76	556.7
W3202	W3203	Landing/Turning Space	5.65	-0.06	-1.1%	0.1% to 2.0%	0.9%	0.1% to 2.0%							3205	775.21	25.78	556.21
W3203	W3204	Landing/Turning Space	5.99	-0.06	-1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%							3206	786.55	36.18	556.94
W3201	W3203	Landing/Turning Space	8.26	-0.02	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%							3207	792.22	37.73	557.09
W3202	W3204	Landing/Turning Space	8.37	-0.12	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%							3208	785.18	42.01	557.03
W3201	W3206	Sidewalk Running Slope	5.90	0.16	2.7%	0.5% to 5.0%	2.3%	0.5% to 5.0%							3209	790.64	43.5	557.18
W3202	W3208	Sidewalk Running Slope	5.68	0.21	3.7%	0.5% to 5.0%	1.3%	0.5% to 5.0%							3210	768.44	38.85	556.82
W3203	W3210	Sidewalk Running Slope	5.72	0.06	1.0%	0.5% to 5.0%	4.0%	0.5% to 5.0%							3211	762.7	38.06	556.74
W3204	W3212	Sidewalk Running Slope	5.87	0.04	0.7%	0.5% to 5.0%	4.3%	0.5% to 5.0%							3212	769.21	32.9	556.74
W3212	W3210	Sidewalk Cross Slope	6.00	0.08	1.3%	0.5% to 2.0%	0.7%	0.5% to 2.0%							3213	763.46	32.11	556.65
W3206	W3208	Sidewalk Cross Slope	5.99	0.09	1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%										



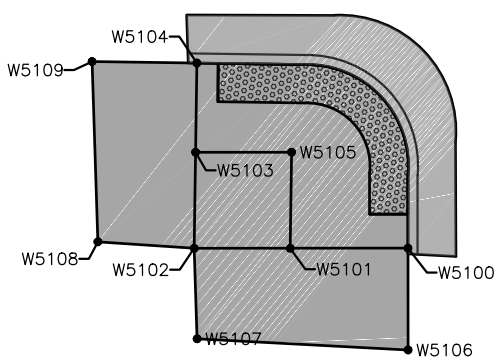
Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Legally Acceptable Range	Difference between Designed Slope and Maximum Legally Acceptable Range	Acceptable Constructed Range	Does Designer need to obtain design approval from Method's Engineer?	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks		FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
			FT	FT	%	Pos. or Neg.		Pos. or Neg.			%				Point	Station	Offset	Elevation
W3100	W3101	Ramp Running Slope	6.34	0.27	4.3%	0.5% to 8.3%	4.0%	0.5% to 8.3%							3100	774.08	-25.89	556.78
W3101	W3102	Ramp Running Slope	6.02	0.40	6.6%	0.5% to 8.3%	1.7%	0.5% to 8.3%							3101	772.52	-32.04	557.05
W3102	W3103	Sidewalk Running Slope	8.16	0.33	4.0%	0.5% to 5.0%	1.0%	0.5% to 5.0%							3102	770.99	-37.86	557.45
W3109	W3108	Ramp Running Slope	6.24	0.40	6.4%	0.5% to 8.3%	1.9%	0.5% to 8.3%							3103	769.04	-45.78	557.78
W3108	W3107	Ramp Running Slope	6.02	0.43	7.1%	0.5% to 8.3%	1.2%	0.5% to 8.3%							3104	766.76	-53.51	557.72
W3107	W3106	Sidewalk Running Slope	7.68	0.30	3.9%	0.5% to 5.0%	1.1%	0.5% to 5.0%							3105	760.78	-51.5	557.64
W3103	W3106	Landing/Turning Space	6.27	-0.08	-1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%							3106	763.09	-43.81	557.7
W3106	W3105	Landing/Turning Space	8.03	-0.06	-0.7%	0.1% to 2.0%	1.3%	0.1% to 2.0%							3107	764.96	-36.36	557.4
W3105	W3104	Landing/Turning Space	6.31	0.08	1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%							3108	766.52	-30.55	556.97
W3104	W3103	Landing/Turning Space	8.06	0.06	0.7%	0.1% to 2.0%	1.3%	0.1% to 2.0%							3109	768.12	-24.52	556.57
W3103	W3105	Landing/Turning Space	10.05	-0.14	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%							3110	774.96	-50.2	557.91
W3104	W3106	Landing/Turning Space	10.37	-0.02	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%							3111	772.45	-55.71	557.95
W3103	W3110	Sidewalk Running Slope	7.39	0.13	1.8%	0.5% to 5.0%	3.2%	0.5% to 5.0%							3112	752.87	-49.29	557.4
W3104	W3111	Sidewalk Running Slope	6.10	0.23	3.8%	0.5% to 5.0%	1.2%	0.5% to 5.0%							3113	754.45	-43.49	557.35
W3105	W3112	Sidewalk Running Slope	8.21	-0.24	-2.9%	0.5% to 5.0%	2.1%	0.5% to 5.0%										
W3106	W3113	Sidewalk Running Slope	8.65	-0.35	-4.0%	0.5% to 5.0%	1.0%	0.5% to 5.0%										
W3100	W3109	Crosswalk Cross Slope - No Yield Condition	6.12	-0.21	-3.4%	0.0% to 5.0%	1.6%	0.0% to 5.0%										
W3101	W3108	Ramp Cross Slope	6.18	-0.08	-1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%										
W3102	W3107	Ramp Cross Slope	6.21	-0.05	-0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%										
W3111	W3110	Sidewalk Cross Slope	6.05	-0.04	-0.7%	0.5% to 2.0%	1.3%	0.5% to 2.0%										
W3112	W3113	Sidewalk Cross Slope	6.01	-0.05	-0.8%	0.5% to 2.0%	1.2%	0.5% to 2.0%										



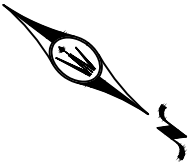
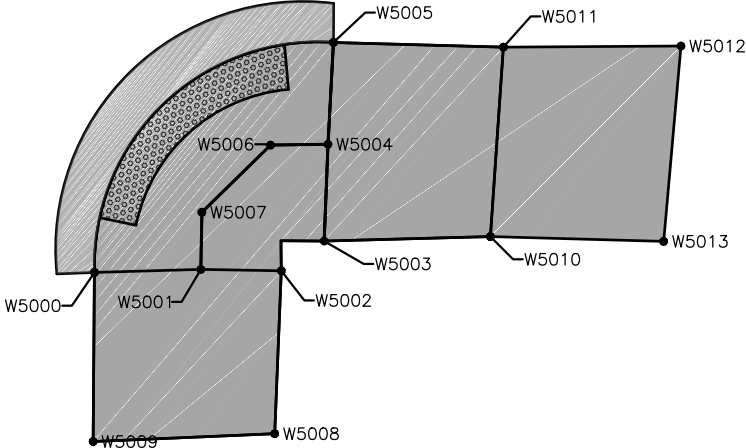
Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Legally Acceptable Range	Difference between Designed Slope and Maximum Legally Acceptable Range	Acceptable Constructed Range	Does Designer need to obtain design approval from Method's Engineer?	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
			FT	FT	%	Pos. or Neg.		Pos. or Neg.			%			Point	Station	Offset	Elevation
W4000	W4001	Landing/Turning Space	5.23	-0.04	-0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%						4000	21+66.40	-7.27	559.84
W4001	W4000	Landing/Turning Space	5.23	0.04	0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%						4001	21+67.55	-2.17	559.80
W4003	W4004	Landing/Turning Space	5.76	0.05	0.9%	0.1% to 2.0%	1.1%	0.1% to 2.0%						4002	21+66.38	2.27	559.80
W4004	W4005	Landing/Turning Space	6.69	-0.04	-0.6%	0.1% to 2.0%	1.4%	0.1% to 2.0%						4003	21+72.24	3.50	559.74
W4000	W4005	Landing/Turning Space	5.99	-0.09	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						4004	21+73.73	-2.06	559.79
W4001	W4004	Landing/Turning Space	6.18	-0.01	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%						4005	21+72.24	-8.58	559.75
W4002	W4003	Landing/Turning Space	5.99	-0.06	-1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%									
W4100	W4101	Ramp Running Slope	5.29	0.29	5.5%	0.5% to 8.3%	2.8%	0.5% to 8.3%						4100	2161.58	20.47	559.32
W4106	W4105	Ramp Running Slope	6.07	0.32	5.3%	0.5% to 8.3%	3.0%	0.5% to 8.3%						4101	2160.09	25.55	559.61
W4100	W4106	Crosswalk Cross Slope - No Yield Condition	5.99	-0.11	-1.8%	0.0% to 5.0%	3.2%	0.0% to 5.0%						4102	2156.99	30.14	559.54
W4101	W4105	Landing/Turning Space	6.22	-0.08	-1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%						4103	2161.38	36.23	559.47
W4105	W4104	Landing/Turning Space	5.74	-0.07	-1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%						4104	2166.66	33.38	559.46
W4104	W4103	Landing/Turning Space	6.00	0.01	0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%						4105	2165.93	27.69	559.53
W4103	W4102	Landing/Turning Space	7.51	0.07	0.9%	0.1% to 2.0%	1.1%	0.1% to 2.0%						4106	2167.42	21.81	559.21
W4102	W4101	Landing/Turning Space	5.54	0.07	1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%						4107	2151.03	22.79	559.74
W4101	W4103	Landing/Turning Space	10.76	-0.14	-1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%						4108	2150.66	28.65	559.78
W4104	W4102	Landing/Turning Space	10.20	0.08	0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%									
W4102	W4108	Sidewalk Running Slope	6.50	0.24	3.7%	0.5% to 5.0%	1.3%	0.5% to 5.0%									
W4101	W4107	Sidewalk Running Slope	9.47	0.13	1.4%	0.5% to 5.0%	3.6%	0.5% to 5.0%									
W4108	W4107	Sidewalk Cross Slope	5.87	-0.04	-0.7%	0.5% to 2.0%	1.3%	0.5% to 2.0%									
W4200	W4201	Ramp Running Slope	4.01	0.23	5.7%	0.5% to 8.3%	2.6%	0.5% to 8.3%						4200	2168	-27.1	559.82
W4205	W4204	Ramp Running Slope	3.04	0.19	6.2%	0.5% to 8.3%	2.1%	0.5% to 8.3%						4201	2167.13	-31.01	560.05
W4200	W4205	Crosswalk Cross Slope - No Yield Condition	6.02	-0.01	-0.2%	0.0% to 5.0%	4.8%	0.0% to 5.0%						4202	2164.15	-36.21	560.11
W4204	W4201	Landing/Turning Space	6.15	0.05	0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%						4203	2159.26	-33.78	560.08
W4201	W4202	Landing/Turning Space	5.99	0.06	1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%						4204	2161.41	-28.75	560
W4202	W4203	Landing/Turning Space	5.46	-0.03	-0.5%	0.1% to 2.0%	1.5%	0.1% to 2.0%						4205	2162.12	-25.79	559.81
W4203	W4204	Landing/Turning Space	5.47	-0.08	-1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%									
W4202	W4204	Landing/Turning Space	7.95	-0.11	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%									
W4201	W4203	Landing/Turning Space	8.34	0.03	0.4%	0.1% to 2.0%	1.6%	0.1% to 2.0%									

[illegible]

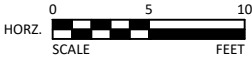
MULBERRY AVENUE



3RD STREET



Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Legally Acceptable Range	Difference between Designed Slope and Maximum Legally Acceptable Range	Acceptable Constructed Range	Does Designer need to obtain design approval from Method's Engineer?	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks		FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
			FT	FT	%	Pos. or Neg.		Pos. or Neg.			%				Point	Station	Offset	Elevation
5000	5001	Ramp Running Slope	5.53	0.32	5.8%	0.5% to 8.3%	2.5%	0.5% to 8.3%							5000	1277.68	30.99	573.83
5001	5002	Landing/Turning Space	4.20	0.05	1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%							5001	1283.21	30.81	574.15
5002	5003	Landing/Turning Space	2.72	0.01	0.4%	0.1% to 2.0%	1.6%	0.1% to 2.0%							5002	1287.41	30.88	574.2
5003	5004	Landing/Turning Space	5.03	-0.05	-1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%							5003	1289.63	29.31	574.21
5004	5006	Landing/Turning Space	2.99	-0.03	-1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%							5004	1289.82	24.28	574.16
5006	5007	Landing/Turning Space	5.00	0.05	1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%							5005	1290.09	18.97	574.02
5004	5005	Ramp Running Slope	5.32	-0.14	-2.6%	0.5% to 8.3%	5.7%	0.5% to 8.3%							5006	1286.83	24.33	574.13
5005	5000	Crosswalk Cross Slope - Yield Condition	17.28	-0.19	-1.1%	0.0% to 2.0%	0.9%	0.0% to 2.0%							5007	1283.26	27.83	574.18
5003	5010	Ramp Running Slope	8.66	0.54	6.2%	0.5% to 8.3%	2.1%	0.5% to 8.3%							5008	1287.09	39.36	573.95
5005	5011	Ramp Running Slope	8.85	0.59	6.7%	0.5% to 8.3%	1.6%	0.5% to 8.3%							5009	1277.63	39.8	573.55
5010	5013	Sidewalk Running Slope	9.02	0.36	4.0%	0.5% to 5.0%	1.0%	0.5% to 5.0%							5010	1298.29	29.06	574.75
5011	5012	Sidewalk Running Slope	9.25	0.37	4.0%	0.5% to 5.0%	1.0%	0.5% to 5.0%							5011	1298.94	19.19	574.61
5012	5013	Match Existing Cross Slope	10.22	0.13	1.3%	Match Existing	FALSE	Match Existing							5012	1308.19	19.1	574.98
5011	5010	Sidewalk Cross Slope	9.89	0.14	1.4%	0.5% to 2.0%	0.6%	0.5% to 2.0%							5013	1307.31	29.28	575.11
5002	5008	Sidewalk Running Slope	8.49	-0.25	-2.9%	0.5% to 5.0%	2.1%	0.5% to 5.0%										
5000	5009	Sidewalk Running Slope	8.81	-0.28	-3.2%	0.5% to 5.0%	1.8%	0.5% to 5.0%										
5008	5009	Match Existing Cross Slope	9.47	-0.40	-4.2%	Match Existing	FALSE	Match Existing										
5100	5101	Ramp Running Slope	6.13	0.18	2.9%	0.5% to 8.3%	5.4%	0.5% to 8.3%							5100	1242.02	29.83	573.51
5101	5102	Landing/Turning Space	5.00	-0.06	-1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%							5101	1235.89	29.85	573.69
5102	5103	Landing/Turning Space	5.00	-0.01	-0.2%	0.1% to 2.0%	1.8%	0.1% to 2.0%							5102	1230.89	29.86	573.63
5103	5105	Landing/Turning Space	5.00	0.06	1.2%	0.1% to 2.0%	0.8%	0.1% to 2.0%							5103	1230.95	24.86	573.62
5103	5104	Ramp Running Slope	4.64	-0.27	-5.8%	0.5% to 8.3%	2.5%	0.5% to 8.3%							5104	1231	20.22	573.35
5100	5106	Ramp Running Slope	5.30	-0.26	-4.9%	0.5% to 8.3%	3.4%	0.5% to 8.3%							5105	1235.95	24.85	573.68
5102	5107	Ramp Running Slope	4.72	-0.22	-4.7%	0.5% to 8.3%	3.6%	0.5% to 8.3%							5106	1242.04	35.13	573.25
5107	5106	Sidewalk Cross Slope	11.00	-0.16	-1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%							5107	1231.05	34.58	573.41
5102	5108	Sidewalk Running Slope	5.03	-0.20	-4.0%	0.5% to 5.0%	1.0%	0.5% to 5.0%							5108	1225.87	29.54	573.43
5104	5109	Sidewalk Running Slope	5.46	-0.06	-1.1%	0.5% to 5.0%	3.9%	0.5% to 5.0%							5109	1225.54	20.15	573.29
5109	5108	Sidewalk Cross Slope	9.40	0.14	1.5%	0.5% to 2.0%	0.5%	0.5% to 2.0%										
5100	5104	Crosswalk Cross Slope - Yield Condition	14.62	-0.16	-1.1%	0.0% to 2.0%	0.9%	0.0% to 2.0%										



**BOLTON
& MENK**

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED
			JGS
			DRAWN
			JGS
			CHECKED
			ALH

CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
SIDEWALK RAMP LAYOUT

SHEET
S.09

GENERAL NOTES:

1. UNDERGROUND UTILITIES: FIELD LOCATE UNDERGROUND UTILITIES PRIOR TO EXCAVATION FOR INSTALLATION OF SITE IMPROVEMENTS. IF A CONFLICT EXISTS BETWEEN PROPOSED SITE IMPROVEMENTS AND EXISTING OR PROPOSED UTILITIES, IMMEDIATELY ADVISE THE OWNERS REPRESENTATIVE.
2. SPOT ELEVATIONS: WHERE SHOWN ON THESE DRAWINGS, SPOT ELEVATIONS ARE TO THE TOP OF FINISH SURFACES
3. DIMENSIONS: DIMENSIONS ARE FROM BACK OF CURB UNLESS NOTED OR SHOWN OTHERWISE ON THE DRAWINGS.
4. HORIZONTAL CONTROL: HORIZONTAL CONTROL FOR THE LAYOUT OF SITE IMPROVEMENTS WILL BE PROVIDED BY THE ENGINEER. STATIONS AND OFFSETS INDICATED ON THE DRAWINGS ARE RELATIVE TO THE ROADWAY STATIONING.
5. ISOLATION JOINTS IN SIDEWALK PAVING: GENERALLY, ISOLATION JOINTS WILL BE LOCATED ALONG THE BACK OF CURB BETWEEN SIDEWALK PAVEMENTS AND PERMANENT STRUCTURES, WALLS AND BUILDINGS. ISOLATION JOINTS WILL ALSO BE LOCATED WHERE THE SIDEWALK PAVEMENT TURNS OR CHANGES DIRECTION, AND AT EVERY 100 FOOT MARK OF LINEAR SIDEWALK.
6. ALL SIDEWALKS AND CONCRETE SURFACES TO HAVE A LIGHT BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAVEL UNLESS OTHERWISE NOTED, TYPICAL.
7. SAWCUTS TO BE MADE AS SHOWN ON PLANS UNLESS CONTRACTOR SUBMITTAL OTHERWISE APPROVED BY OWNERS REP.
8. CONTRACTOR IS TO PRESERVE AND PROTECT EXISTING VEGETATION TO REMAIN AT ALL STAGES OF CONSTRUCTION. DAMAGED PLANT MATERIAL WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
9. CONTRACTOR IS TO PRESERVE AND PROTECT EXISTING BUILDINGS AND FOUNDATIONS AT ALL STAGES OF CONSTRUCTION.
10. CONTRACTOR IS TO VERIFY THAT ALL SLOPES, CROSS SLOPES, LONGITUDINAL SLOPES, DROP CURB SLOPES, ETC. DO NOT EXCEED PROWAG MAXIMUMS. CONTRACTOR IS TO NOTIFY OWNER'S REPRESENTATIVE IF SLOPES EXCEED GUIDELINE RECOMMENDATIONS.
11. HATCH PATTERNS ON PLAN DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION OR SCALING PURPOSES. REFER TO CONSTRUCTION DETAILS FOR PAVER PATTERNS AND FINISHES.

GENERAL LANDSCAPE IMPROVEMENT NOTES:

1. MASTER PLANT SCHEDULE: SHRUBS AND PERENNIALS ARE LISTED IN THE MASTER PLANT SCHEDULE. IF THERE IS A CONFLICT BETWEEN THE QUANTITIES SHOWN ON THE DRAWING AND THE QUANTITIES SHOWN IN THE PLANT SCHEDULE, THE PLAN QUANTITIES SHALL PREVAIL.
2. PLANTING LAYOUT: LAYOUT A TYPICAL SHRUB AND PERENNIAL BED LAYOUT, AND OBTAIN APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO PLANTING.
3. SHRUB AND PERENNIAL GROUPINGS SHALL BE PLANTED AND MULCHED IN ONE CONTINUOUSLY MULCHED BED.
4. SOD ALL AREAS WHERE INDICATED ON DRAWINGS.

SPECIALTY SOIL TYPES AND NOTES:


1. AMENDED PLANTING SOIL: INCIDENTAL TO PERENNIAL/GROUNDCOVER/SHRUB/TREE PLANTING TO DEPTHS SPECIFIED IN PLANTING/STREETSCAPE DETAILS ON U SHEETS.
2. PLANTING BACKFILL SHALL BE COMPOSED OF SUITABLE TOPSOIL AMENDED TO CONSIST OF 30% TOPSOIL, 60% SAND AND 10% COMPOST.

SEEDING NOTES:


SUDAS TYPE 2 (PERMANENT COOL SEASON) MIX

- A. MIX AND INSTALLATION PER SUDAS SPECIFICATIONS
- B. APPLY COMMERCIAL FERTILIZER TO ALL SEEDED AREA AT THE RATE OF 450 POUNDS PER ACRE OF 13-13-13 (OR EQUIVALENT). INCORPORATE INTO THE TOP 2-3 INCHES OF TOPSOIL DURING SEEDBED PREPARATION
- C. ALL SLOPES 3.5:1 OR GREATER SHALL BE BLANKETED WITH TEMPORARY RECP, TYPE 2.C IMMEDIATELY FOLLOWING SEEDING.
- D. ALL SEEDED AREAS NOT COVERED WITH RECP SHALL BE COVERED WITH HYDROMULCH AT RATE OF MIN. OF 2,600 POUNDS PER ACRE DRY WEIGHT. TACKIFIER SHALL BE INCORPORATED AT RATE OF 50 POUNDS PER ACRE.


LEGEND




DECIDUOUS/ORNAMENTAL TREES




SHRUBS/PERENNIALS/GRASSES/ANNUALS




SOD, LAWN




SEED, LAWN




PAVER TYPE 'A'




PAVER TYPE 'B'




PAVER TYPE 'C'




PAVER TYPE 'D', CROSSWALK PAVERS




STREET LIGHT POLE (NOT-IN-CONTRACT, TO BE USED FOR FOOTING LOCATION ONLY) FOOTING IN CONTRACT



BOULDER SEATWALL



STEEL BENCH



LITTER RECEPTACLE

CONCRETE PAVER TYPES/NOTES

CONTRACTOR SHALL REVIEW/CONFIRM PAVER PATTERNS WITH ENGINEER PRIOR TO INSTALLATION.

TYPE "A": HISTORIC PAVER, CITY FURNISHED TO CONTRACTOR FOR INSTALLATION, PATTERN: RUNNING BOND (SEE PLANS AND DETAILS)

TYPE "B": UNILOCK - SERIES 3000, 7.75" x 4" x 2.75" (20 CM x 10 CM x 7 CM), COLOR: ONYX BLACK, PATTERN: SOLDIER COURSE (SEE PLANS AND DETAILS)

TYPE "C": UNILOCK - ARTLINE, VARIABLE SIZES PER STANDARD LAYING PATTERN, 2.75" (7 CM) THICKNESS, PREMIER FINISH, COLOR: COPPER RIDGE

TYPE "D": UNILOCK - HOLLAND PREMIER, 7.75" x 4" x 3.25" (20 CM x 10 CM x 8 CM), COLOR: CHARCOAL, PREMIER FINISH, PATTERN: SOLDIER COURSE BORDER, 90 DEGREE HERRINGBONE FIELD (SEE PLANS AND DETAILS)

CONTACT:

UNILOCK
301 E. SULLIVAN ROAD, AURORA, ILLINOIS 60505
BRAD PUNKE - TERRITORY MANAGER
O: 630-892-9191 EXT. 253 M: 847-489-0382

COLORED CONCRETE NOTES:

1. COLORED CONCRETE SHALL BE INTEGRALLY COLORED, SELECTED FROM MANUFACTURER'S COLOR CHARTS SHOWING FULL RANGE OF COLORS AVAILABLE.
2. APPROVED INTEGRALLY COLORED CONCRETE INCLUDE DAVIS COLOR (800) 356-4848, CEMSTONE (651) 688-9292, SOLOMON COLORS (217) 522-3112, OR APPROVED EQUAL.
3. CURING AND SEALING MATERIALS SHALL BE A PRODUCT FORMULATED TO PROTECT COLORED ARCHITECTURAL CONCRETE . PRODUCT SHALL BE 26% SOLIDS, NON-YELLOWING, CURE AND A SEAL MADE FROM PURE 100% ACRYLIC. SOLVENT SHALL BE CLEAR, DURABLE, ABRASION-, CHEMICAL-, WEATHER- AND UV-RESISTANT: ASTM C 309 TYPE 1 CLASS B, ASTM C-1315 TYPE 1 CLASS A, B, C. APPROVED MATERIALS INCLUDE TK BRIGHT KURE & SEAL, MATTE FINISH BY TK PRODUCTS (800) 441-2129, OR APPROVED EQUAL MATTE FINISH. SCHEDULE PLACEMENT TO MINIMIZE EXPOSURE TO WIND AND HOT SUN BEFORE CURING MATERIALS ARE APPLIED.
4. ONLY ONE BRAND OF CEMENT SHALL BE USED UNLESS WRITTEN PERMISSION TO USE ANOTHER BRAND OF CEMENT IS GRANTED BY THE PROJECT MANAGER AND/OR OWNER REPRESENTATIVE.
5. QUALITY ASSURANCE:
 - 5.1. MANUFACTURER QUALIFICATIONS: MINIMUM 10 YEARS OF DOCUMENTED EXPERIENCE PRODUCING THE SPECIFIED PRODUCTS.
 - 5.2. INSTALLER QUALIFICATIONS: MINIMUM 5 YEARS OF DOCUMENTED EXPERIENCE WITH WORK OF SIMILAR SCOPE AND COMPLEXITY REQUIRED BY THIS PROJECT AND ACCEPTABLE TO, OR CERTIFIED BY, STAMPED CONCRETE PAVING MANUFACTURER. MATERIAL SOURCE: OBTAIN EACH SPECIFIED MATERIAL FROM THE SAME SOURCE. TO ENSURE CONSISTENCY AND UNIFORMITY.
 - 5.3. NOTIFICATION: GIVE A MINIMUM 7 CALENDAR DAYS' NOTICE TO MANUFACTURER'S AUTHORIZED FIELD REPRESENTATIVE BEFORE DATE ESTABLISHED FOR COMMENCEMENT OF WORK.
6. REQUIRED MOCK-UP:
 - 6.1. CONTRACTOR SHALL CONSTRUCT A MINIMUM 10 FOOT BY 10 FOOT MOCKUP AT LOCATION SELECTED BY OWNER.
 - 6.2. PROVIDE INDIVIDUAL MOCKUPS FOR EACH COLOR REQUIRED.
 - 6.3. MOCKUP CAN BE PART OF FINAL PROJECT IF, IN THE JUDGEMENT OF THE OWNER, PAVEMENT IS ACCEPTABLE.
 - 6.4. CONSTRUCT MOCKUP USING MATERIALS, PROCESSES, AND TECHNIQUES REQUIRED FOR THE WORK, INCLUDING CURING PROCEDURES. INCORPORATE REPRESENTATIVE CONTROL, CONSTRUCTION, AND EXPANSION JOINTS ACCORDING TO PROJECT REQUIREMENTS. INSTALLER FOR THE WORK TO CONSTRUCT MOCKUP.
 - 6.5. NOTIFY OWNER A MINIMUM OF SEVEN CALENDAR DAYS IN ADVANCE OF THE DATE SCHEDULED FOR EACH MOCKUP CONSTRUCTION.
 - 6.6. OBTAIN THE OWNER'S ACCEPTANCE OF EACH MOCKUP PRIOR TO COMMENCEMENT OF THE WORK.
 - 6.7. EACH MOCKUP TO REMAIN UNTIL COMPLETION OF THE WORK TO SERVE AS A QUALITY CONTROL STANDARD FOR THE WORK. PROVIDE SUITABLE PROTECTIONS TO PRECLUDE DAMAGE TO MOCKUP.
 - 6.8. DEMOLISH AND REMOVE EACH MOCKUP FROM SITE WHEN DIRECTED.
7. SEALING
 - 7.1. SEAK ALL COLORED CONCRETE WITH LIQUID MEMBRANE CURING AND SEALING COMPOUNDS AS RECOMMENDED BY MANUFACTURER.
 - 7.2. APPLY TWO COATS OF SPECIFIED CURING AND SEALING COMPOUND ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 7.3. PRIOR TO SEALING, THE FOLLOWING CONDITIONS MUST BE PRESENT:
 - 7.3.1. RELEASE AGENT HAS BEEN REMOVED.
 - 7.3.2. MOISTURE CONTENT OF CONCRETE IS LOW ENOUGH THAT ALKALI AND OTHER SALTS DO NOT BECOME TRAPPED BENEATH SEALER. THIS WILL REQUIRE A MINIMUM OF 28 DAYS SUBSEQUENT TO CONCRETE PLACEMENT, OR LONGER IF REQUIRED.
 - 7.3.3. NO EVIDENCE OF FREE WATER ON CONCRETE SURFACES TO RECEIVE CURING AND SEALING COMPOUND.

MASTER PLANT SCHEDULE (refer to plan drawings for locations)

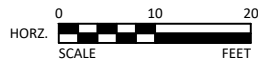
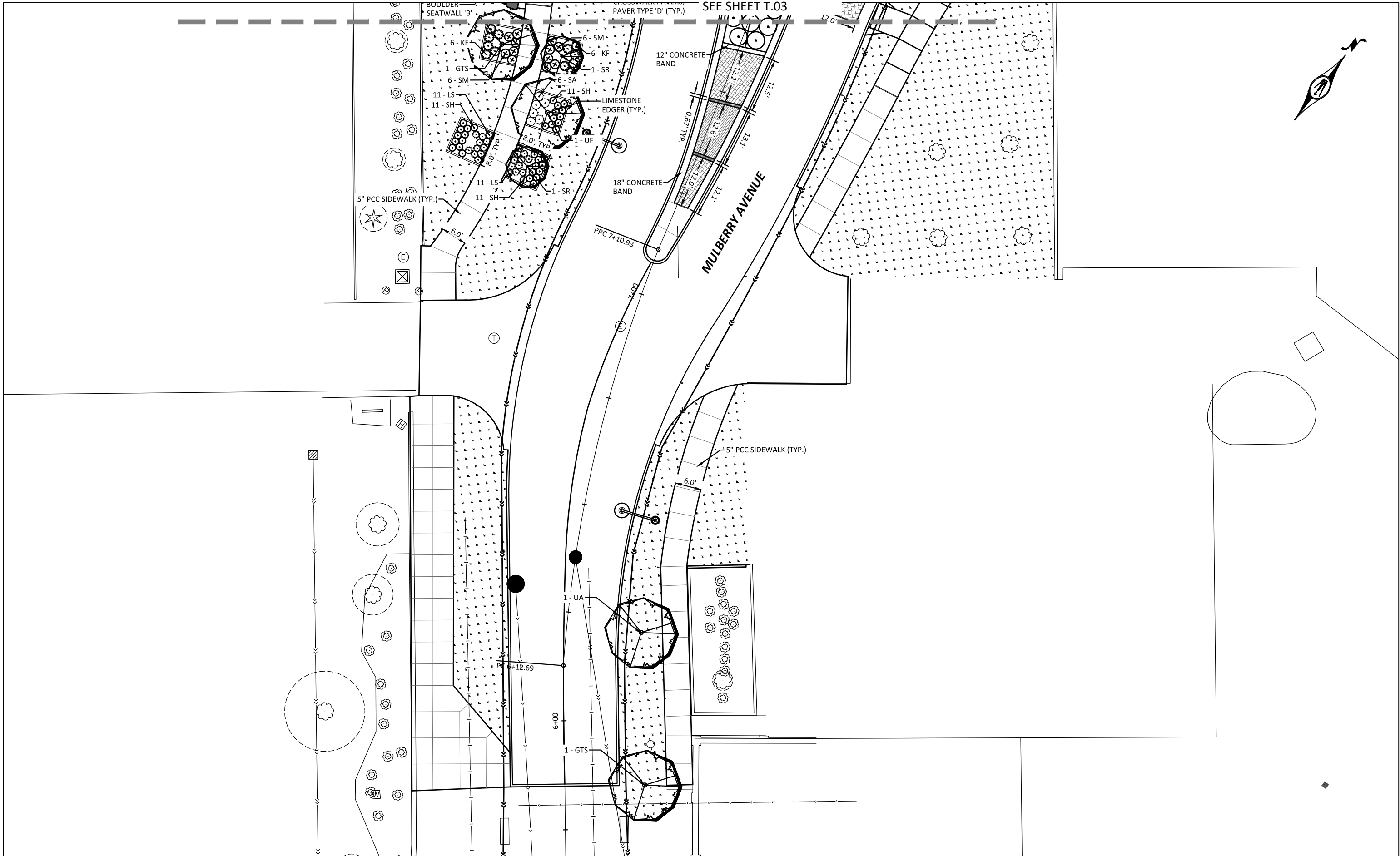
Qty.	Sym.	Scientific Name	Common Name	Unit	Size	Spacing	Characteristics
Trees							
2	QB	Quercus bicolor	Swamp White Oak	EA	2" B&B	see plan	Balled & Burlapped
2	AF	Acer x freemanii Sienna	Sienna Glen Maple	EA	2" B&B	see plan	Balled & Burlapped
2	CO	Celtis occidentalis	Hackberry	EA	2" B&B	see plan	Balled & Burlapped
4	SR	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	EA	1.5" B&B	see plan	Balled & Burlapped
2	MP	Malus sp. 'Prairiefire'	Prairiefire Crab	EA	1.5" B&B	see plan	Balled & Burlapped
2	CC	Crataegus crus-galli (thornless form)	Thornless Cockspur Hawthorn	EA	1.5" B&B	see plan	Balled & Burlapped
4	GT	Gleditsia triacanthos 'Shademaster'	Shademaster Honeylocust	EA	2" B&B	see plan	Balled & Burlapped
2	GTS	Gleditsia triacanthos 'Skyline'	Skyline Honeylocust	EA	2" B&B	see plan	Balled & Burlapped
2	UF	Ulmus 'Frontier'	Frontier Elm	EA	2" B&B	see plan	Balled & Burlapped
4	UA	Ulmus americana 'New Harmony'	New Harmony Elm	EA	2" B&B	see plan	Balled & Burlapped
Shrubs							
19	RA	Rhus aromatica 'Gro-Low'	Grow-Low Fragrant Sumac	EA	3 gal.	see plan	
Perennials							
88	SA	Sedum x 'Autumn Joy'	Autumn Joy Sedum	EA	1 gal.	see plan	
64	SM	Salvia x sylvestris 'May Night'	Salvia May Night	EA	1 gal.	see plan	
113	LS	Liatris spicata 'Kobold'	Kobold Liatris	EA	1 gal.	see plan	
24	NR	Nepeta racemosa	Walker's Low Catmint	EA	1 gal.	see plan	
34	DF	Dianthus Feurhexe 'Firewitch'	Firewitch Dianthus	EA	1 gal.	see plan	
Perennial Grasses							
147	SH	Sporobolus heterolepis	Prairie Dropseed	EA	1 gal.	see plan	
88	KF	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	EA	1 gal.	see plan	



BOLTON & MENK

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED XXX	CITY OF MUSCATINE, IOWA	SHEET T.01
			DRAWN XXX	2ND & MULBERRY ROUNDABOUT	
			CHECKED ALH	LANDSCAPE PLAN	



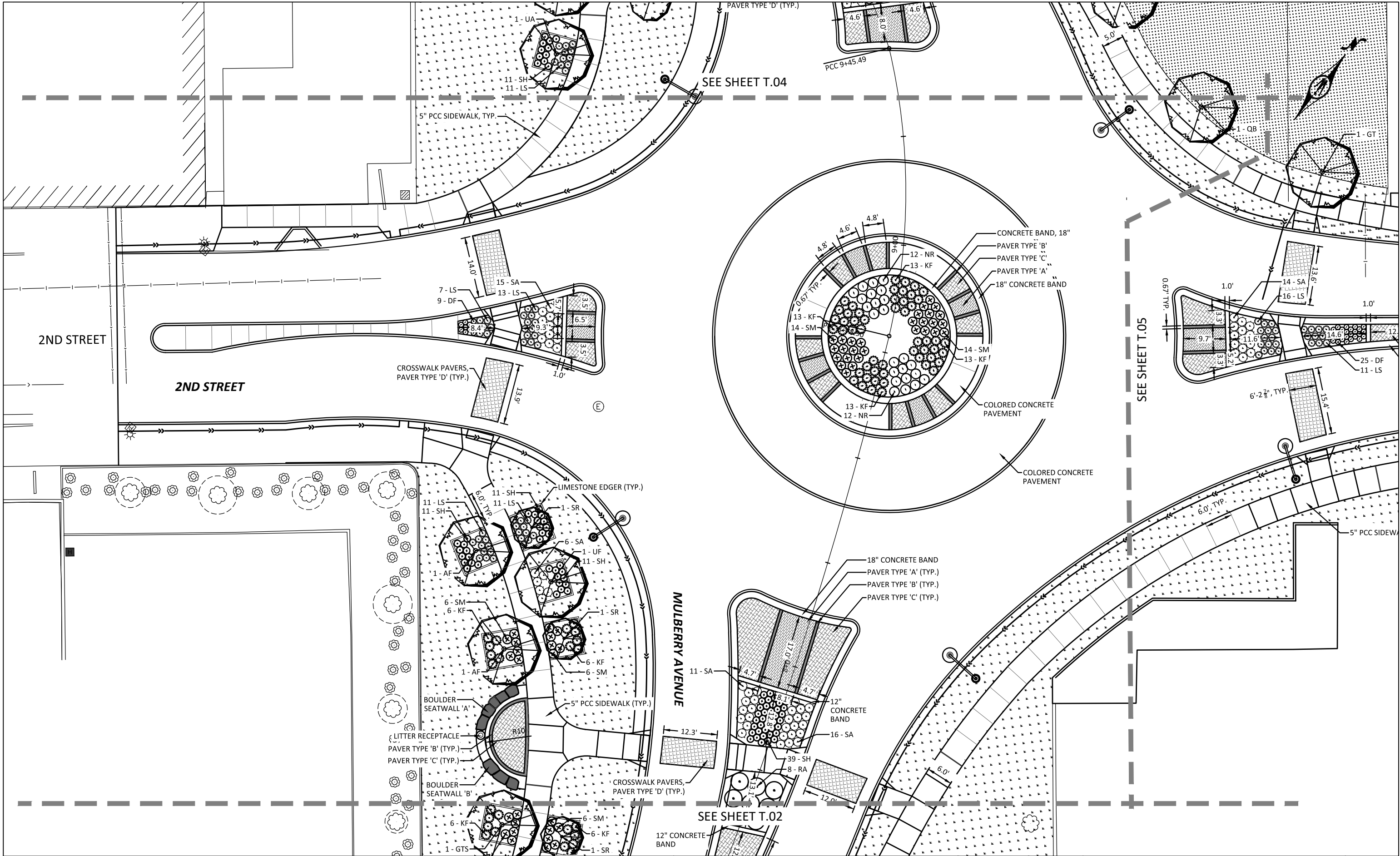
**BOLTON
& MENK**

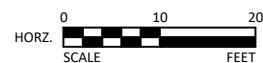
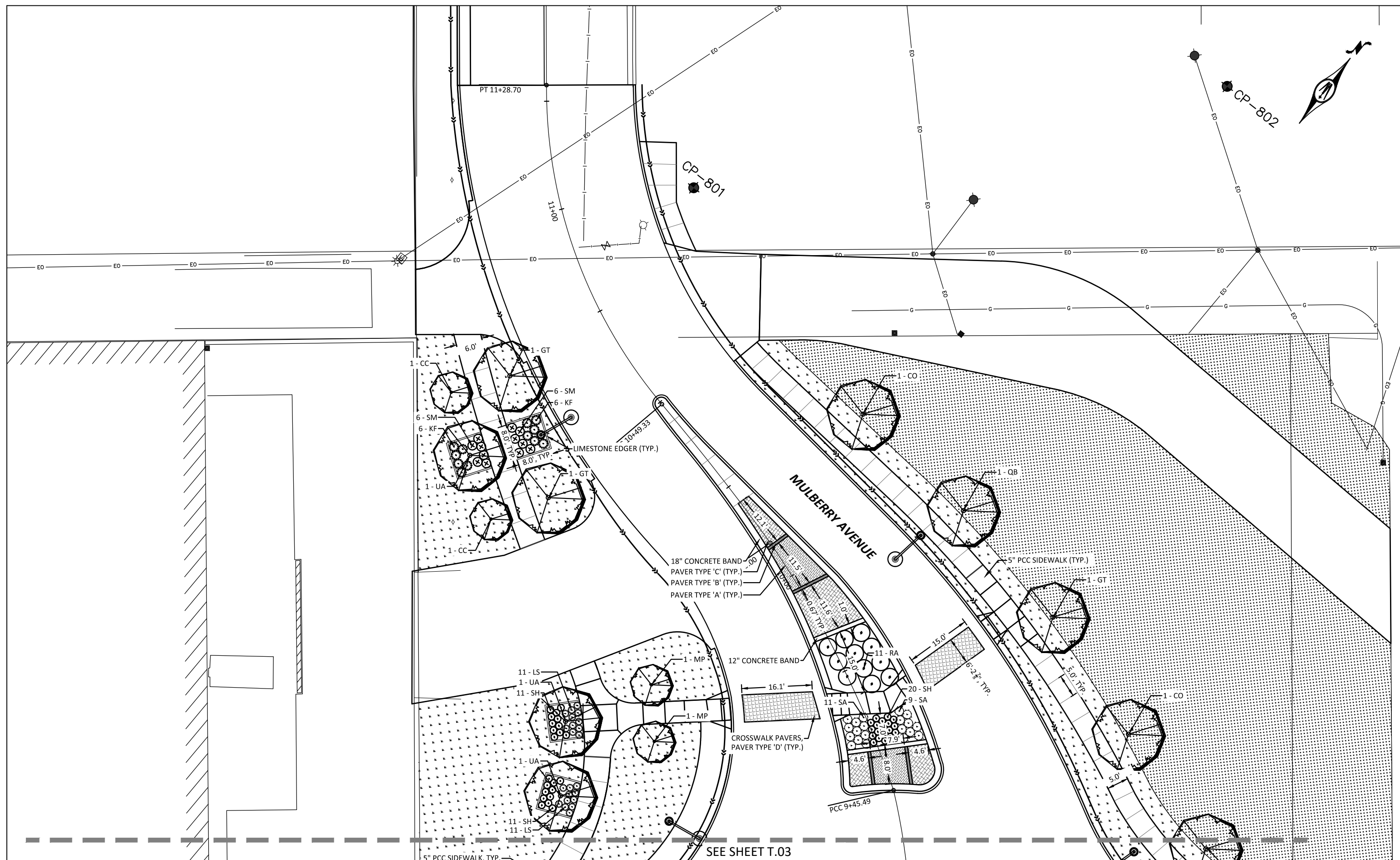
855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

REV	ISSUED FOR	DATE	DESIGNED XXX
			DRAWN XXX
			CHECKED ALH

CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT
LANDSCAPE PLAN

SHEET
T.02



**BOLTON
& MENK**

855 WRIGHT BROTHERS BLVD SW, SUITE 2A
CEDAR RAPIDS, IOWA 52404
Phone: (319) 362-3219
Email: CedarRapids@bolton-menk.com
www.bolton-menk.com

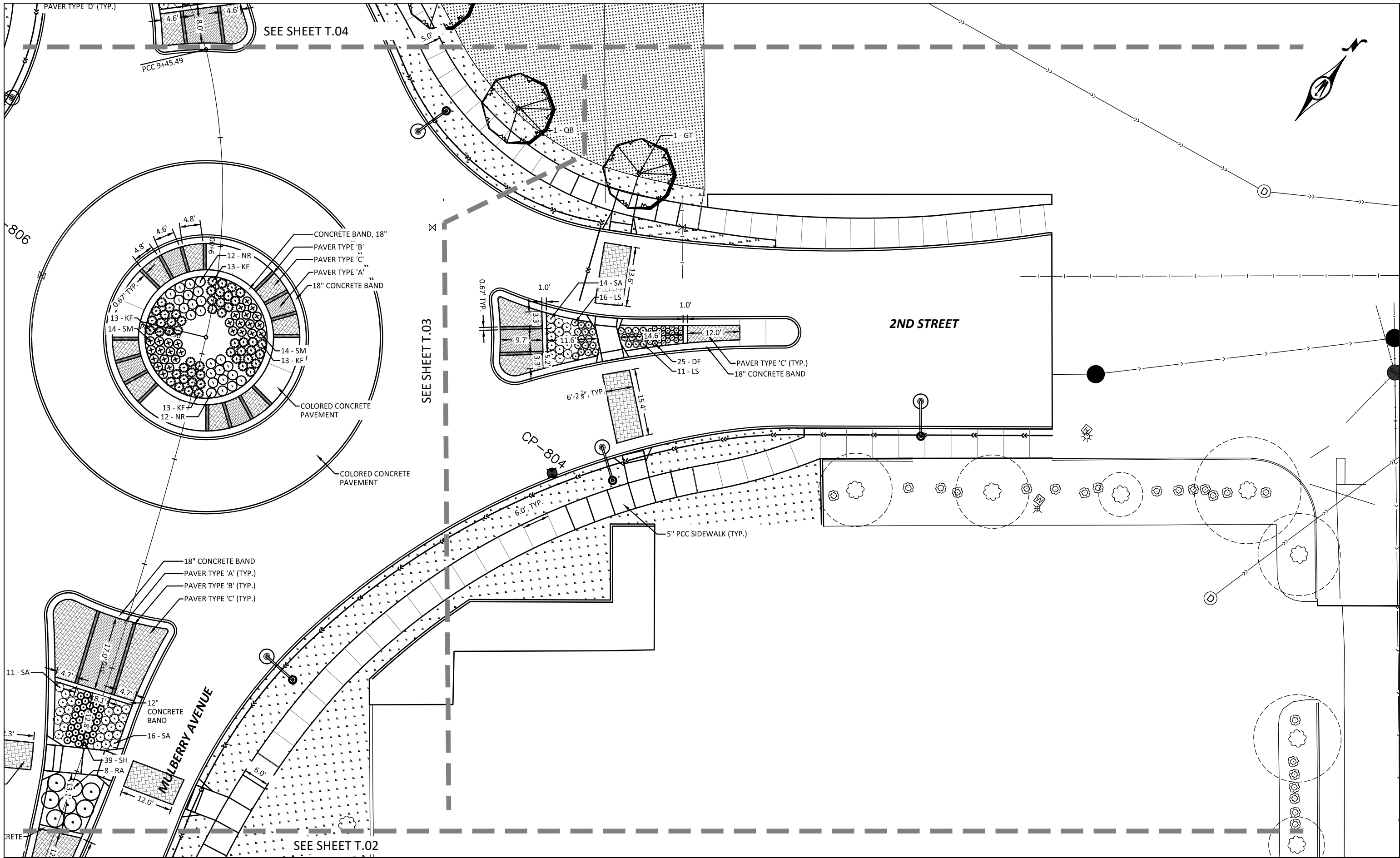
REV	ISSUED FOR	DATE	DESIGNED XXX
			DRAWN XXX
			CHECKED ALH

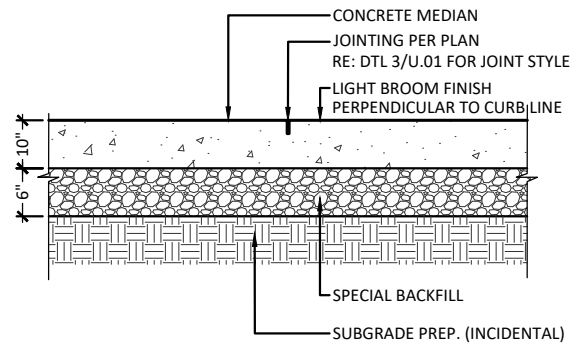
CITY OF MUSCATINE, IOWA
2ND & MULBERRY ROUNDABOUT

LANDSCAPE PLAN

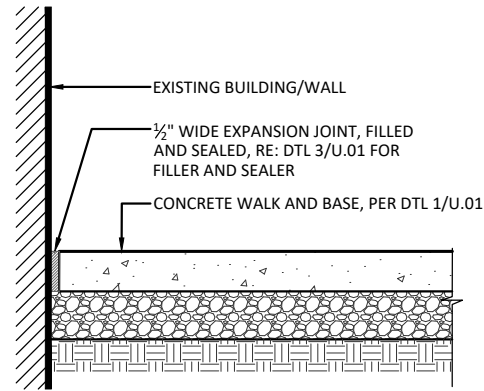
SHEET

T.04

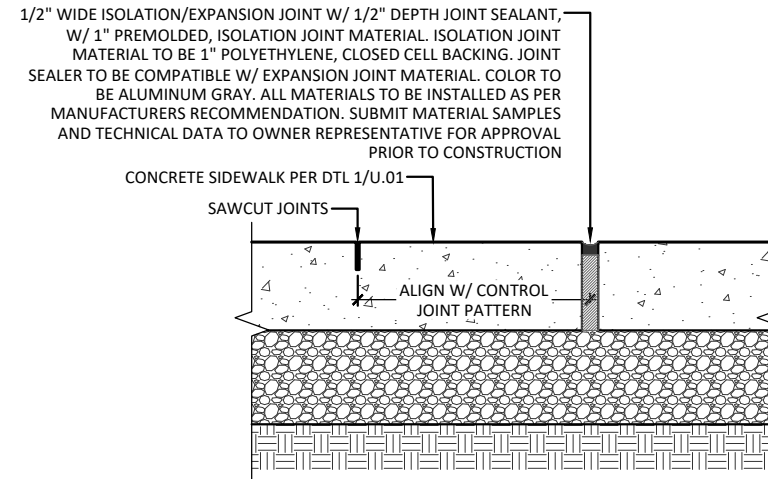




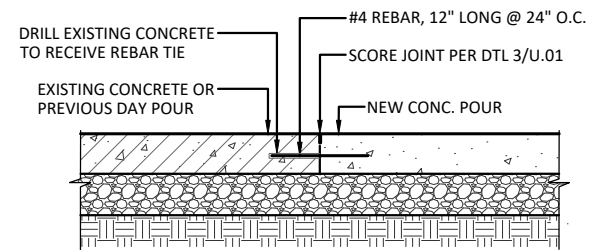
1 TYPICAL SECTION: PCC MEDIAN CONCRETE PAVEMENT
SCALE: 1"=1'-0"



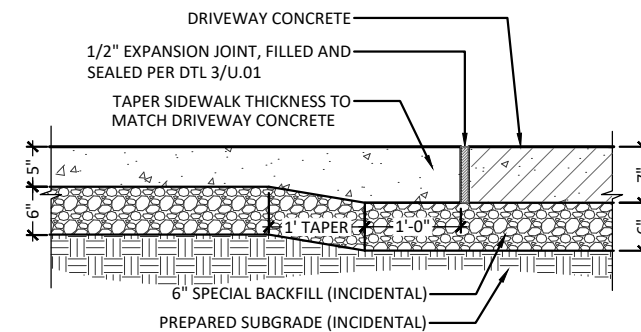
2 TYPICAL SECTION: CONCRETE SIDEWALK AT BUILDING/WALL EDGE
SCALE: 1"=1'-0"



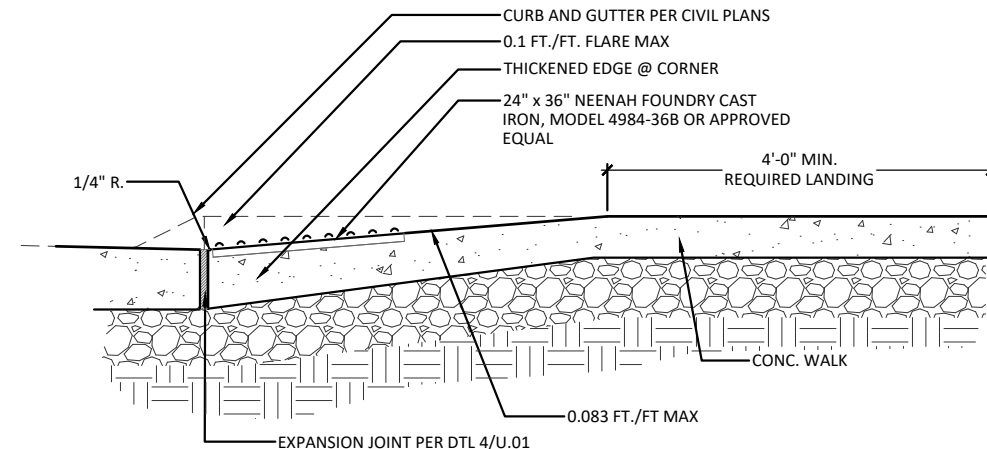
3 TYPICAL SECTION: CONCRETE SIDEWALK JOINTS - SAWCUT, ISOLATION/EXPANSION
SCALE: N.T.S.



4 TYPICAL SECTION: SIDEWALK REINFORCED CONSTRUCTION JOINT
SCALE: 1"=1'-0"



5 SECTION: SIDEWALK TO DRIVEWAY CONNECTION
SCALE: 1"=1'-0"

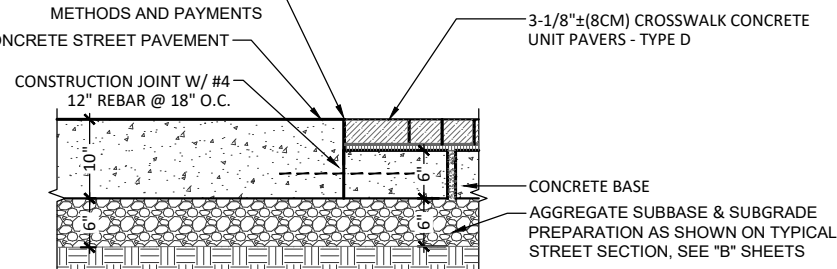


6 SECTION: PEDESTRIAN CURB RAMP / DETECTABLE WARNING PANEL
SCALE: 1"=1'-0"

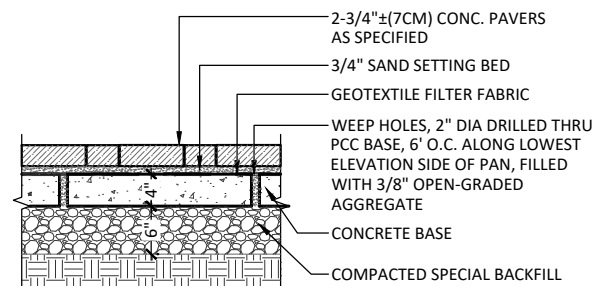
NOTES:

1. IN PEDESTRIAN CROSSINGS, CONCRETE PAVEMENT SHALL BE PLACED WITHIN CROSSWALK AREAS IN CONJUNCTION WITH STREET PAVING OPERATIONS. THE EDGES OF THE CONCRETE PAVER CROSSWALKS SHALL THEN BE SAW CUT FULL-DEPTH AND THE CONCRETE REMOVED FOR THE PLACEMENT OF CONCRETE PAVERS AND CONCRETE BASE.
2. PAYMENT FOR CONCRETE PAVEMENT GREATER THAN 10" THICK ADJACENT TO CROSSWALK AND OTHER STREET PAVERS WILL BE AT THE UNIT PRICE BID FOR 10" CONCRETE PAVEMENT
3. PAYMENT FOR CONCRETE PAVEMENT PLACED AND SUBSEQUENTLY REMOVED WILL BE AT THE UNIT PRICE BID FOR 10" CONCRETE PAVEMENT. SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 'CROSSWALK PAVERS W/ 6" CONCRETE BASE'

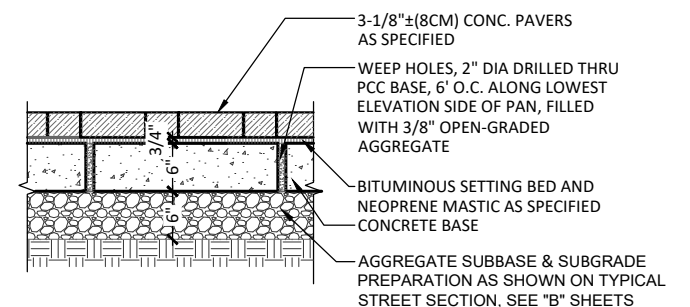
SEE NOTES FOR STREET PAVEMENT
METHODS AND PAYMENTS
CONCRETE STREET PAVEMENT



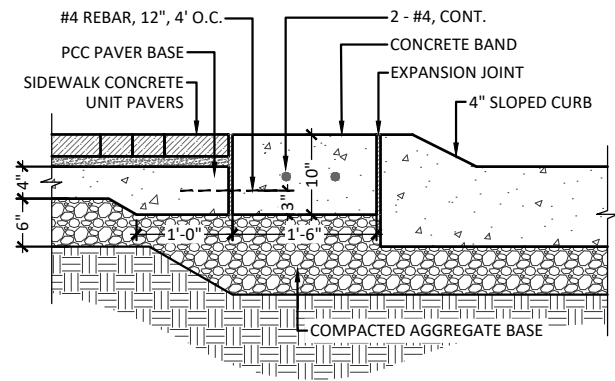
7 SECTION: CROSSWALK PAVERS WITH PCC BASE AND ROADWAY INTERFACE
SCALE: 1"=1'-0"



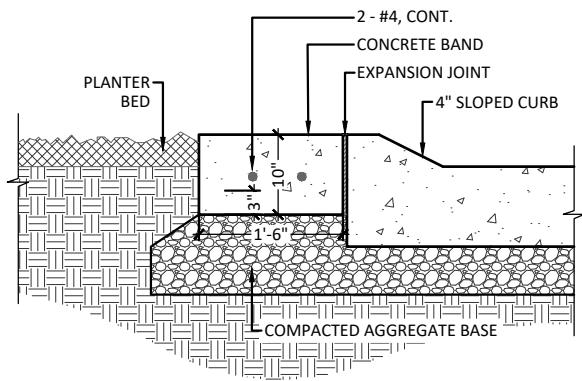
8 SECTION: SIDEWALK / MEDIAN CONCRETE UNIT PAVERS
SCALE: 1"=1'-0"



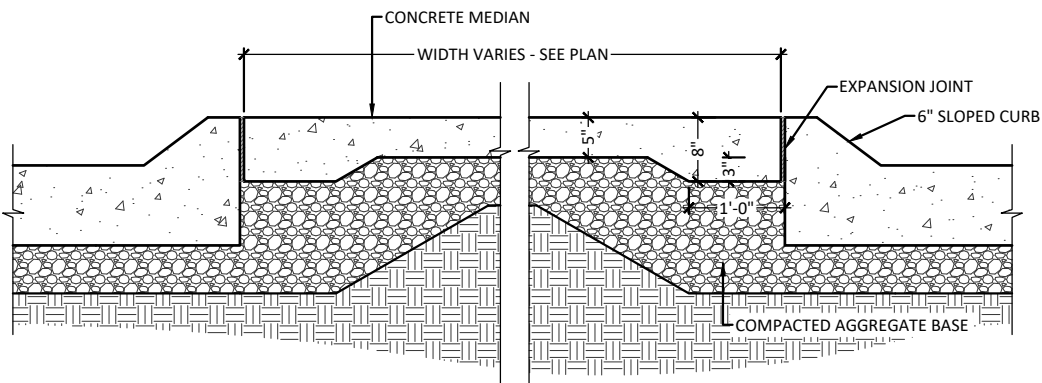
9 SECTION: CROSSWALK CONCRETE UNIT PAVERS
SCALE: 1"=1'-0"



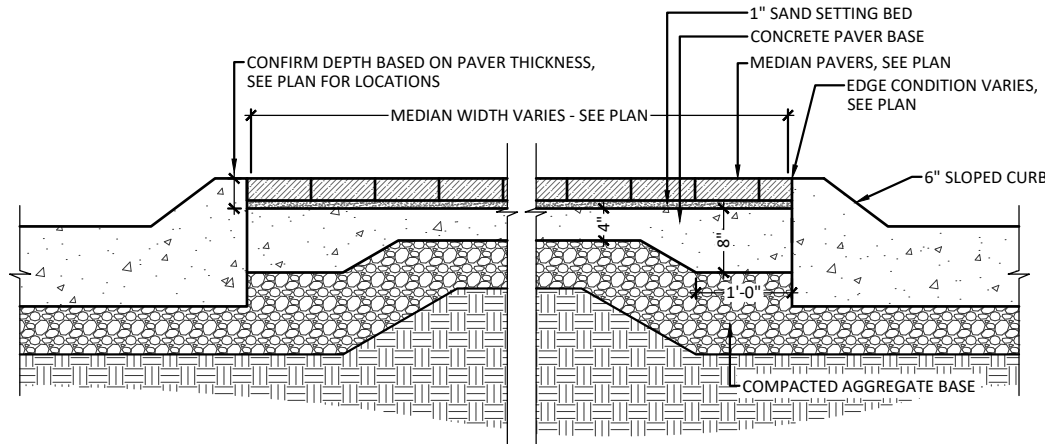
1 SECTION: CONCRETE BAND AT 4" SLOPED CURB
SCALE: 1"=1'-0"



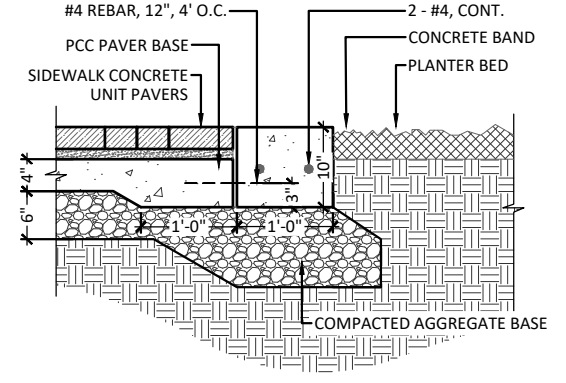
2 SECTION: CONCRETE BAND AT 6" SLOPED CURB
SCALE: 1"=1'-0"



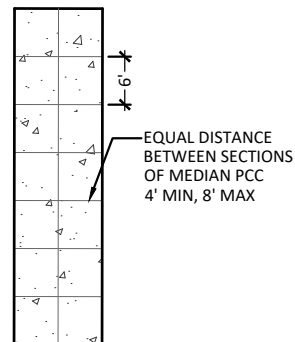
3 SECTION: CONCRETE MEDIAN/6" SLOPED CURB
SCALE: 1"=1'-0"



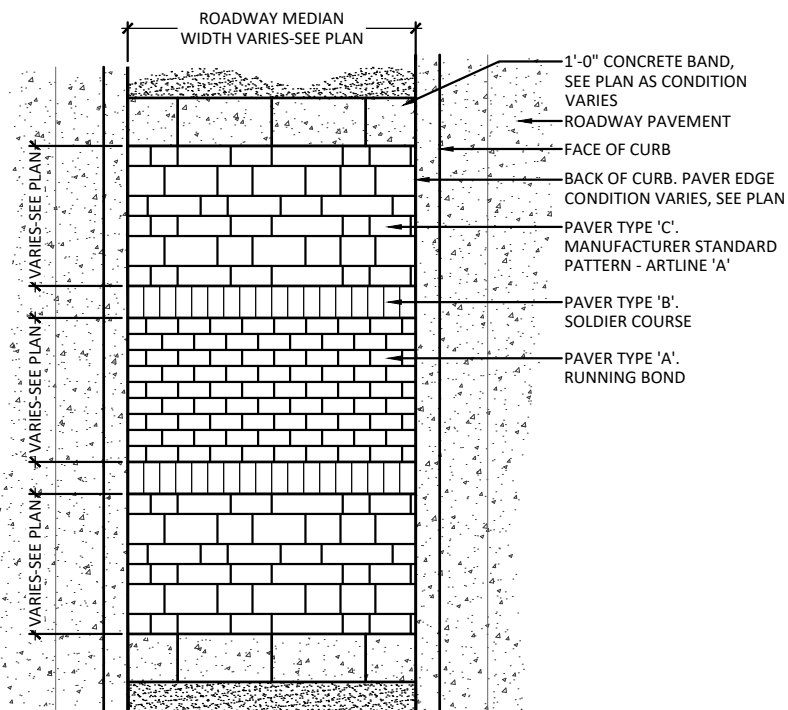
4 SECTION: MEDIAN PAVERS/6" SLOPED CURB
SCALE: 1"=1'-0"



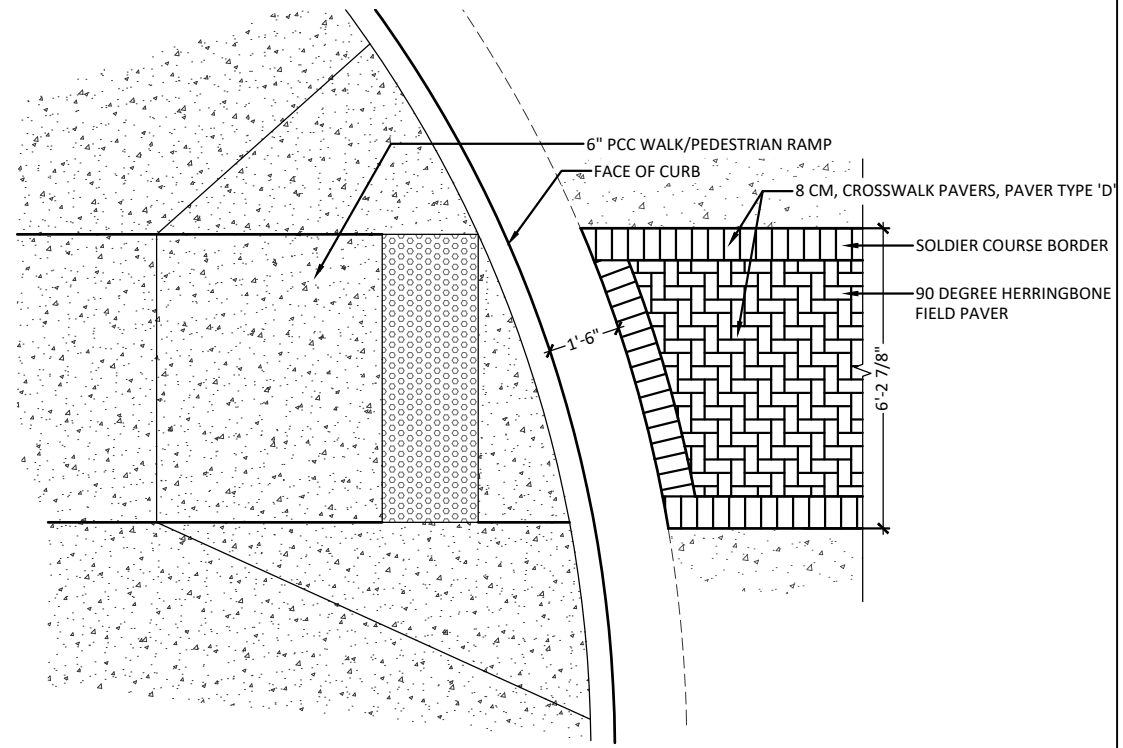
5 SECTION: CONCRETE BAND IN MEDIAN BETWEEN PAVERS AND PLANTING BED
SCALE: 1"=1'-0"



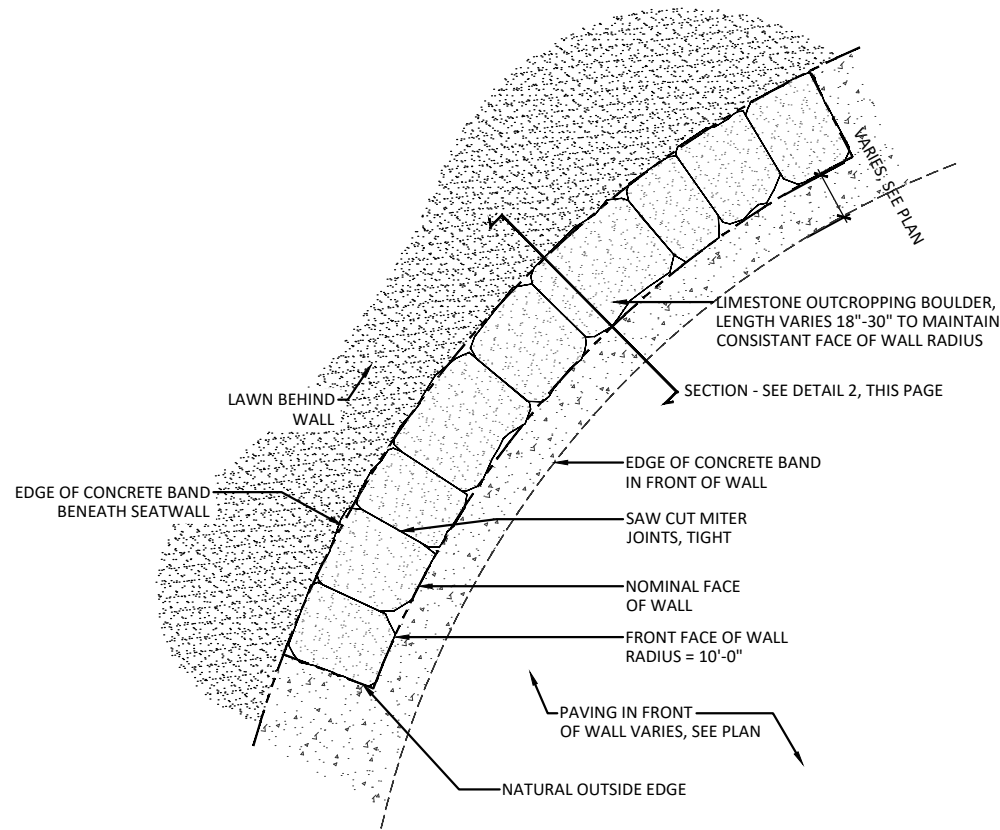
6 MEDIAN/CONCRETE BAND JOINTING PLAN
N.T.S.



7 TYPICAL PAVER PATTERN: MEDIAN PAVERS
SCALE: 1/2"=1'-0"



8 TYPICAL PAVER PATTERN: CROSSWALK PAVERS
SCALE: 1/2"=1'-0"



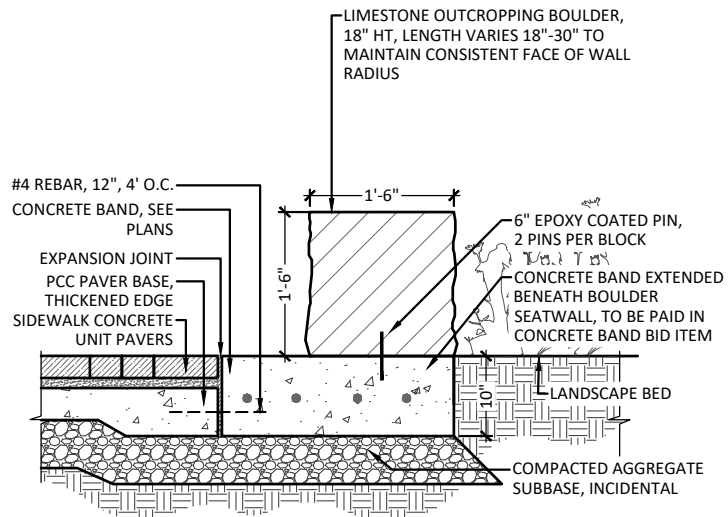
BOULDER SEATWALL MATERIAL TO MATCH MISSISSIPPI DRIVE SEATWALL.

-LIMESTONE OUTCROPPING BLOCK
-SPLITFACE FRONT/BACK
-NATURAL TOP/BOTTOM, WITH SAWN/ MITERED JOINTS AS REQUESTED TO FIT RADIUS.

PROVIDE SHOP DRAWINGS.

BOULDER SEATWALL DIMENSIONS:
*RADIUS TO FRONT FACE OF WALL

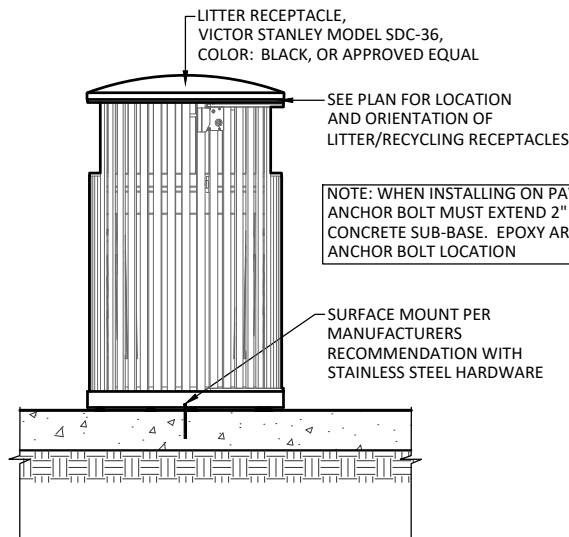
SEATWALL 'A': RADIUS=10', LENGTH=13.5'
SEATWALL 'B': RADIUS=10', LENGTH=9.5'



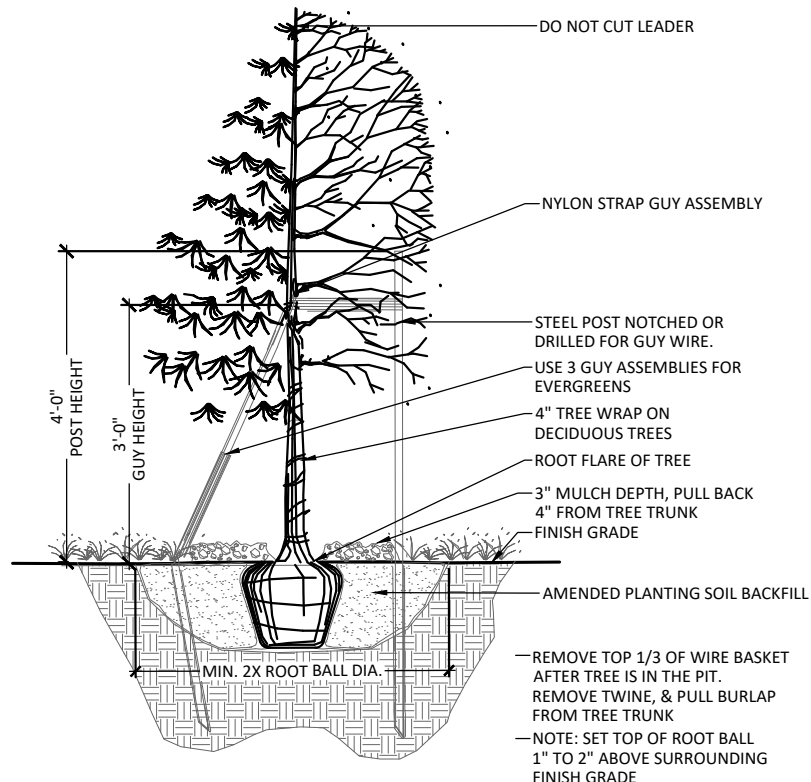
2 SECTION: BOULDER SEATWALLS
SCALE: 1"=1'-0"

1 PLAN: BOULDER SEATWALLS
SCALE: 1/2"=1'-0"

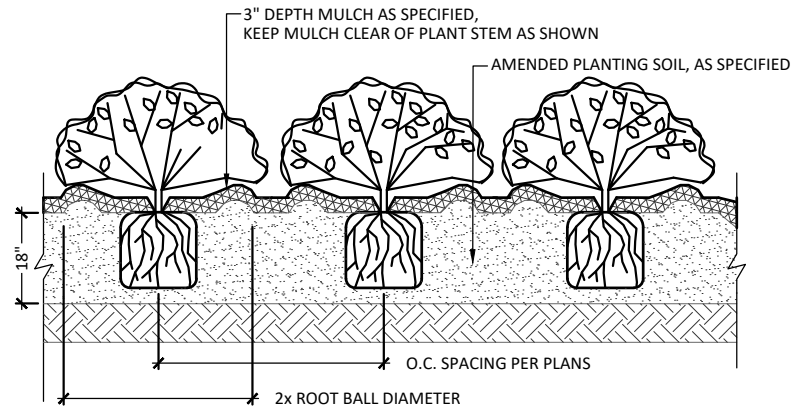
CONTACT:
VICTOR STANLEY SITE FURNISHINGS
ATTN: ANDREW HOSMER
PH: 800-368-2573 X 323
EMAIL: andrewh@victorstanley.com



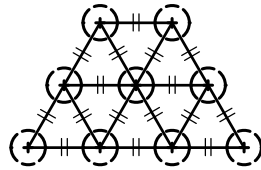
3 SECTION: LITTER RECEPTACLE
SCALE: 1"=1'-0"



4 SECTION: TREE PLANTING IN MEDIAN/PLANTER DETAIL
SCALE: 1"=1'-0"

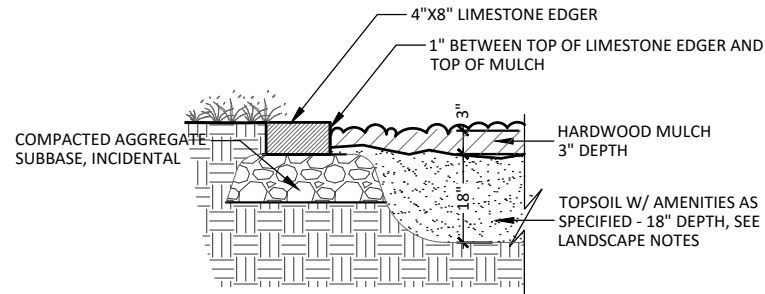


1 SECTION: PERENNIAL / SHRUB PLANTING
SCALE: 1"=1'-0"

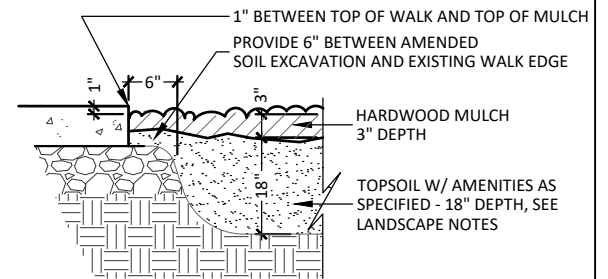


- NOTES:
1. O.C. TRIANGULAR PLANT SPACING PER PLANS
 2. AREAS IDENTIFIED ON PLANTING PLAN AS O.C. SHALL BE TRIANGULAR SPACED
 3. SEE PLANTING PLAN/SCHEDULE FOR SPECIES

2 SECTION: PERENNIAL PLANT SPACING
SCALE: 1"=1'-0"



3 SECTION: LIMESTONE EDGER
SCALE: 1"=1'-0"



4 PLANTING EDGE AT CONC. WALK
SCALE: N.T.S.